

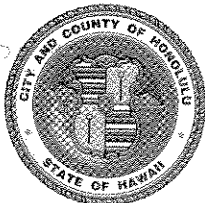
PLANNING DEPARTMENT
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK F. FASI
MAYOR

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QUALITY



ROBIN FOSTER
CHIEF PLANNING OFFICER
ROLAND D. LIBBY, JR.
DEPUTY CHIEF PLANNING OFFICER

ET

June 8, 1993

Honorable Brian Choy, Director
Office of Environmental Quality Control
Central Pacific Plaza
220 South King Street, 4th Floor
Honolulu, Hawaii 96813

Dear Mr. Choy:

Acceptance Notice for the Proposed
Wahiawa Lands Development--Folder No. 93/CO-1
Final Environmental Impact Statement (Final EIS)

We are notifying you of our acceptance of the Final EIS for the proposed Wahiawa Lands Development Plan Amendments, as satisfactory fulfillment of the requirements of Chapter 343, Hawaii Revised Statutes.

Pursuant to Section 11-200-23 (c), Chapter 200, Title 11 ("Environmental Impact Statement Rules") of the Administrative Rules, this acceptance notice should be published in the June 23, 1993 OEQC Bulletin.

We have attached our Acceptance Report of the Final EIS for the Wahiawa Lands Development. Should you have any questions, please contact Eugene Takahashi of our staff at 527-6022.

Sincerely,

ROBIN FOSTER
Chief Planning Officer

RF:js

Attachments

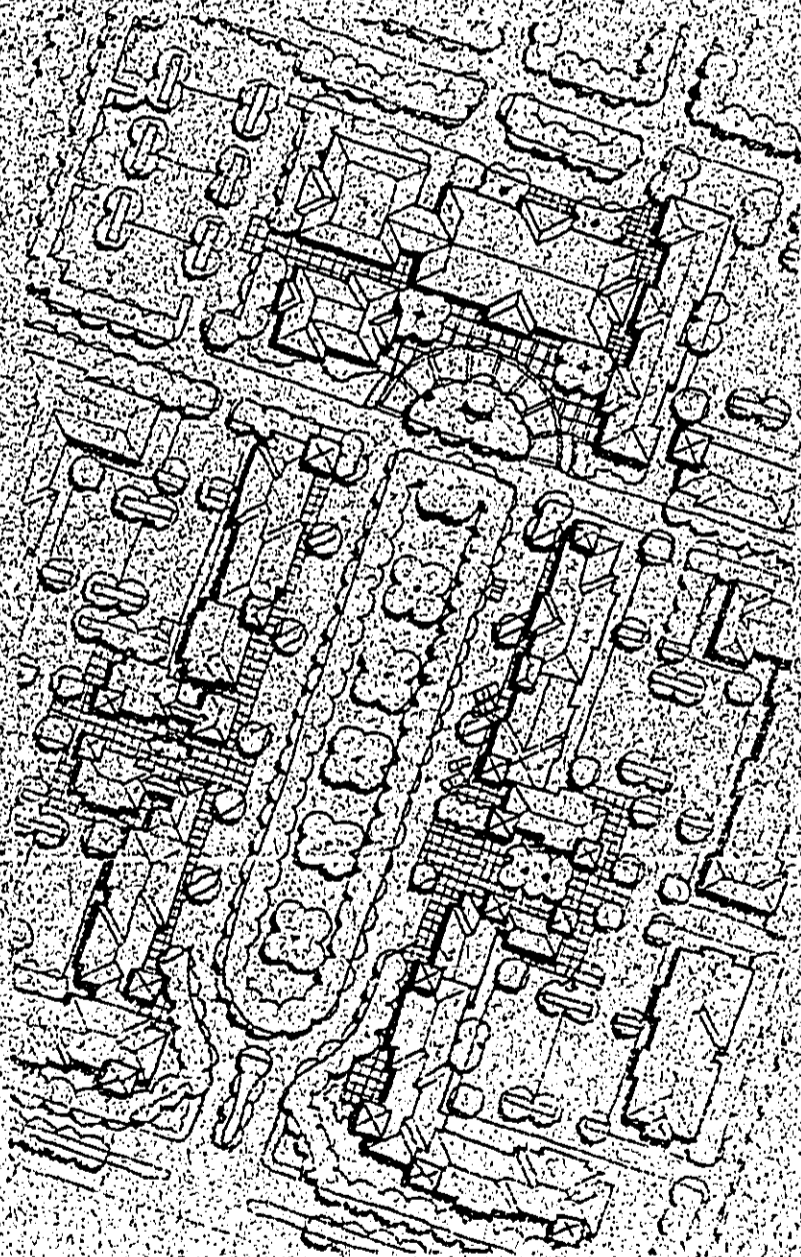
cc: Helber Hastert & Fee
Hawaiian Trust

1993-~~Wahiawa~~ Oahu - FEIS - FILE COPY

GALBRAITH TRUST ESTATE

WAHIAWA LANDS DEVELOPMENT

Wahiawa District, Oahu, Hawaii



Wahiawa

Final
Environmental
Impact Statement

Volume 1

April 1993

Prepared for: Hawaiian Trust Company, Ltd.

Prepared by: Helber Hastert & Fee, Planners

GALBRAITH TRUST ESTATE

**WAHIAWA
LANDS
DEVELOPMENT**

Wahiawa District, Oahu, Hawaii

**Final
Environmental
Impact Statement**

Volume 1

April 1993

Prepared for: Hawaiian Trust Company, Ltd.

Prepared by: Helber Hastert & Fee, Planners

**For submittal to: Planning Department
City and County of Honolulu**

Pursuant to: Chapter 343, Hawaii Revised Statutes

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FEIS PREFACE

Several changes in the land use plan, as well a downward adjustment in the overall project acreage were made as a result of agency consultation and survey work completed during the DEIS review period. Specific agency comments are documented in Chapter 14. The DEIS land use concept plan (pre-changes) and the FEIS land use concept plan (post-changes) are presented as Figures 4 and 4A, respectively. The land use changes are identified in both plans. The changes result in a modest decrease in park area (from 333 acres to 297 acres or about nine percent) and a small increase in project residential density (from 8.04 units/acre to 8.55 units/acres or about six percent). The number of homes (3,100) remains unchanged. The changes have resulted in a better, more refined plan, and do not adversely affect the findings of the various technical studies, potential project impacts, and proposed mitigating measures. A summary of the changes is provided below.

1. Conservation District Boundary Interpretation

A Conservation District boundary interpretation along the Wilson Reservoir frontage was completed after the publication of the DEIS. The interpretation issued by the State Land Use Commission (No. 93-02) generally identifies the top of the Kaukonahua Gulch as the boundary between the State Conservation and Agriculture Districts. Accordingly, all uses formerly proposed for the upper reaches of the gulch (primarily the proposed lakefront park) have been relocated to the top of the gulch, outside of the Conservation District. The only use proposed for the State Conservation District remains the proposed six-acre boat launching area near the reservoir spillway. This use is not part of the DP amendment application and would be developed in cooperation with DLNR under a State Conservation District Use Permit.

2. Boundary Survey

A boundary survey of the entire project area was conducted by Sam O. Hirota, Inc. (dated March 5, 1993), incorporating the referenced Conservation District boundary interpretation. The boundary survey indicated the total project acreage to be 877 acres, including Poamoho Camp, the Kamehameha Highway, Kaukonahua Road and Kamananui Road rights-of-way, and the proposed boat launch ramp. The difference between the revised project acreage of 877 and the previous estimate of 918 acres (41 acres) is attributable to the exclusion of lands adjacent to Kaukonahua and Poamoho Gulches determined by the boundary survey to be within the respective gulches and/or within the State Conservation District, and more accurate survey information on the land area included within the major public rights-of-way running through the project (provided by the boundary survey). The bulk of the 41-acre difference was subtracted from the proposed Poamoho and Lakefront linear parks. The proposed six-acre Wilson Reservoir boat launch area (included in the overall 877-acre project area) is and will continue to remain in the State Conservation District and is therefore not included in the DP land use map amendment application.

3. Land Use Changes

The Honolulu Public Transit Authority requested an expansion of the two-acre park-and-ride facility to a single five-acre, 500 car park-and-ride-facility. The Honolulu Department of Parks and Recreation requested exchanging the 14-acre community park adjacent the Kukaniloko State Park (and expanding it to 20 acres) with the nine-acre neighborhood park near the Town Center, and then eliminating the proposed six-acre

neighborhood park adjacent to Whitmore Village. The State Department of Education requested the consolidation of the two six-acre elementary schools into a single 12-acre site adjacent to the Town Center. These changes have been reviewed with the respective agencies and the Honolulu Planning Department (Accepting Agency) and all have found them to be satisfactory. The movement of the parks and schools resulted in a loss of 17 acres of proposed single family land use near the Town Center, ten acres of which were replaced in the former Whitmore Village area elementary school/park facility. The balance of the residential loss was recovered by increasing the density of the immediately adjacent lands (single-family and medium-density uses to medium density and multi-family uses, respectively). The net effect is to increase the residential density surrounding the Town Center, further reinforcing the central concept of creating a pedestrian-oriented core area. The impacts of the land use changes are negligible as discussed further below.

Park-and-Ride Facility. Through the DEIS consultation process, the Honolulu Public Transit Authority (HPTA) advised of its new policies requiring the provision and dedication of major park-and-ride facilities within new housing developments. A two-acre facility was formerly included in the DEIS concept plan, adjacent to a two-acre civic area and the proposed business park. As noted in the DEIS, the adjacent civic area might provide day care or other supporting uses to the park-and-ride. HPTA agrees that the site is well located and has advised that it will require an expanded five-acre facility at the same gateway location. To accommodate the enlarged site, the adjacent two-acre civic area and one-acre of the adjacent business park were reallocated to the original two-acre park-and-ride. It is now contemplated that support uses such as a day care operation might be accommodated within the adjacent business park, allowing incoming business park commuters, in addition to on-site residents, an opportunity to utilize the park-and-ride and day care operations.

Neighborhood and Community Parks. The relocation of the proposed community park nearer the Town Center will place the park within an easy 5 to 10 minute walk of the majority of the proposed 8,100 residents. Although the former location would have been more accessible to offsite residents via automobile access from Kamehameha Highway, DPR's position is that community parks are primarily to serve on-site residents and thus should be located as close as possible to the centroid of population. DPR plans to expand the Kahi Kani Park (between the eastern edge of the project and Whitmore Village) to a neighborhood park configuration and therefore could not support the development of a second neighborhood park in the immediate vicinity. Moreover, DPR is reexamining the six-acre elementary school/four-acre neighborhood park concept it has coordinated with the State Department of Education (DOE) over the past several years. For several reasons, both agencies have determined that stand-alone facilities are more desirable. DPR has also increased the overall size requirements of its neighborhood and community park standards to 10 acres and 20 acres, respectively, in part to accommodate automobile parking to meet City Land Use Ordinance (LUO) requirements.

Kukaniloko Park. No direct changes were made to the proposed 11-acre Kukaniloko Park. However, one of the objectives in collocating the community park adjacent to Kukaniloko Park was to provide increased buffering to Kukaniloko. The relocated community park was replaced with a 10-acre neighborhood park and a four-acre extension of the proposed lakefront linear park. Thus the entire 14-acre area will remain in a park-like setting and therefore there will be no change in the level of buffering provided to Kukaniloko.

Elementary School. The State Department of Education (DOE) has indicated that a single 12-acre elementary school will be sufficient to accommodate the needs of the proposed development. It also indicated that a site adjacent to the Town Center and within the centroid of resident population would be the most desirable. As noted above with reference to DPR, DOE is reexamining the six-acre elementary school/four-acre neighborhood park concept it has coordinated with the City Department of Parks and Recreation over the past several years. For several reasons, both agencies have determined that stand-alone facilities are more desirable. DOE has also increased the overall size requirements of its elementary school to 12 acres.

4. Circulation

The State Department of Transportation (DOT) raised a concern about the proximity of the project's proposed southern intersection on Kamananui Road with the Wilikina Drive/Kamananui Road intersection. In response to this concern, the intersection was shifted further north to a point mid-way between the primary project entrance from Kamananui Road and the Wilikina Drive/Kamananui Road intersection.

CHAPTER I

Introduction and Summary

CHAPTER 1 INTRODUCTION AND SUMMARY

1.1 Introduction

Hawaiian Trust Company, Ltd., trustee for the Galbraith Trust Estate, has applied to the City and County of Honolulu Department of General Planning (the "accepting agency") for an amendment to the Central Oahu Development Plan (DP) Land Use Map to permit the development of a residential community and related civic, recreational and commercial facilities adjacent to the north of the town of Wahiawa.

The application requests the redesignation of approximately 871 acres of land from Agriculture to Residential, Low-Density Apartment, Commercial, Commercial Mixed Use, Commercial-Industrial Mixed Use, Public and Quasi-Public, and Parks and Recreation.

1.2 Development Summary

<i>Applicant:</i>	Hawaiian Trust Company, Ltd. (trustee for Galbraith Trust Estate) P.O. Box 3170 Honolulu, Hawaii 96802 Attention: Mike Angotti
<i>Property Owner:</i>	Galbraith Trust Estate
<i>Developer:</i>	Hawaiian Trust Co., Ltd./Schuler Homes, Inc. Joint Venture
<i>Preparers of the EIS:</i>	Helber Hastert & Fee, Planners 733 Bishop Street, Suite 2590 Honolulu, Hawaii 96813 Attention: Tom Fee/Gail Uyetake
<i>Accepting Agency:</i>	Planning Department City and County of Honolulu 650 South King Street, 8th Floor Honolulu, Hawaii 96813 Attention: Brian Suzuki
<i>Area of Application:</i>	871 acres
<i>Tax Map Key:</i>	7-1-001: por. 001; por. 005; por. 006; 007; por. 008; por. 11; por. 025; por. 026; 027; 028; 029; por. 030; por. 031; & 032.
<i>Location:</i>	Wahiawa Judicial District, City and County of Honolulu. Adjacent to north fork of Wahiawa Reservoir.
<i>Existing State Land Use Districts:</i>	Agriculture
<i>City and County Development Plan:</i>	Agriculture

City and County Zoning: Restricted Agriculture (Ag-1)

Existing Uses: Pineapple cultivation, plantation camp.

Proposed Uses: Residential, commercial, recreational, light industrial, and public facility uses including: 3,100 residential units, business/office park, light industrial center, neighborhood commercial center, community park, Kukaniloko park, linear parks, public elementary school, public golf course, and private wastewater treatment plant.

Proposed Action: Amendment of the City and County Development Plan Land Use Map from Agriculture to Residential (347 acres), Parks and Recreation (297 acres), Commercial Emphasis Mixed Use (64 acres), Low-Density Apartment (79 acres), Commercial-Industrial Emphasis Mixed Use (41 acres), Commercial (18 acres), and Public and Quasi-Public (25 acres).

DP Public Facilities Map: The City plans infrastructure improvements in the project vicinity including various roadway improvements along Kamehameha Highway, Kaukonahua Road, and Wilikina Drive; sewer system improvements along Whitmore Avenue; sewage treatment plant improvements in Whitmore Village; fire station in Whitmore Village; sewage pump station near Karsten Thot Bridge; and solid waste facility near intersection of Wilikina Drive and Kamananui Road.

1.3 Statement of Purpose and Need for Action

The applicant is requesting an amendment of the Central Oahu DP Land Use Map to change the land use designation of the area of application from Agriculture to Residential (347 acres), Parks and Recreation (297 acres), Commercial Emphasis Mixed Use (64 acres), Low-Density Apartment (79 acres), Commercial-Industrial Emphasis Mixed Use (41 acres), Commercial (18 acres), and Public and Quasi-Public (25 acres). The purpose of this action is to permit the development of the proposed 3,100 residential units, business center, commercial/light industrial park, golf course, mixed use town center, and associated civic, commercial and recreational facilities.

1.4 Purpose of this Environmental Impact Statement

The purpose of this Environmental Impact Statement (EIS) is to describe a proposal for the development of the Galbraith Trust Estate lands. The EIS is a disclosure document which provides information on all known or potential effects that a proposed action may have on the environment, economic and social welfare of the community and State. It includes the potential impacts of the proposed project, both beneficial and adverse, and proposes measures to either avoid or minimize adverse impacts to the environment. A discussion of alternatives to the proposed development can be found in Chapter 7.

1.5 Need for Environmental Impact Statement

An application for Development Plan Amendment and Environmental Assessment for the proposed development was submitted to the City's Department of General Planning (DGP) on September 15, 1992. The proposed action was subject to the provisions of Chapter 343, Hawaii Revised Statutes, Environmental Impact Statements, because the proposed amendment to the Central Oahu Development Plan would result in a designation other than agriculture or conservation.

By letter dated October 13, 1992, DGP notified the Office of Environmental Quality Control (OEQC) that it had determined that an Environmental Impact Statement (EIS) was required for the proposed subject project. Notice of this determination was published in the November 8, 1992 *OEQC Bulletin*. The publication of this notice of determination began a 30-day public review period which ended on December 8, 1992. A list of agencies, organizations and individuals consulted during preparation of the draft EIS is found in Chapter 10 of this document. Chapter 11 contains reproductions of written comments on the EIS Preparation Notice received by January 15, 1993 and the applicant's responses to the comments.

Notice of the draft EIS was published in the February 8, 1993 *OEQC Bulletin*. This began a 45-day public comment period which ended on March 25, 1993.

Chapter 12 contains reproductions of comments received during the pre-assessment consultation. Chapter 14 contains reproductions of written comments on the draft EIS received by April 19, 1993 and applicant responses to those comments.

1.6 Summary of Probable Impacts and Mitigation Measures

Affordable Housing

Impacts. The project will increase the existing housing stock on Oahu by providing about 3,100 homes. At least 60 percent of these homes (1,860) will be in the affordable range, as specified by State and City guidelines. The applicant is also committed to providing elderly and/or other special needs rental housing.

The applicant has entered into a joint venture agreement with Schuler Homes, Inc. to develop the residential component of the project. Schuler Homes, Inc. is one of Hawaii's leading developers of affordably priced residential homes, providing quality entry-level homes for the people in Hawaii. The company's affordable homes have historically been priced at levels that either are at or below ceilings established by governmental land use policies, or represent the low to moderate end of the market for a home in a particular locality.

Employment

Impacts. The project will generate both short-term construction jobs and continuing jobs in operations on-site. Direct construction jobs would average about 250 jobs per year, over a 15-year period. By the year 2010, about 3,410 direct operations employment jobs are estimated.

Fiscal

Impacts. The project will generate no new capital flows from outside Hawaii. It is characterized as an indirect effect of the overall growth of the island and State

economies, not a new stimulus. When analyzed with respect to its locational impacts of whether the development of the new community will commit government bodies to additional costs not offset by new revenues, a positive ratio of revenues to costs is projected for both the City and State.

Demographics and Compatibility with Surrounding Communities

Impacts. Development of the project would lead to an increase in residential population of about 8,100 by the year 2010. No change in land use or population is anticipated for Poamoho Camp. The project is expected to house Oahu residents, most of whom will have household incomes ranging from 80 percent to 120 percent of the island median. Families living in the project are likely to consist largely of middle-income, younger, working families. Overall, the project is expected to mirror the State's projected age distribution. Some residents have concerns that the project could overshadow older parts of Wahiawa and draw business patrons away from the town. Other concerns include the potential loss of agricultural or rural identity for Wahiawa.

Mitigation. The project could help revitalize community character in Wahiawa by creating a greater Wahiawa area with Wahiawa Town retaining the role as the central hub. Additional jobs and housing would help Wahiawa retain its younger people. Project design decisions could help to strengthen Wahiawa's identity. The applicant is recommending that an "urban design plan" for the project be prepared as a condition of Development Plan approval. The plan would provide overall and site specific design guidelines for the development consistent with the design philosophy established in the EIS, provide architectural, landscape, lighting, and other design details for the various land use elements and circulation systems, and provide greater detail in the area of project phasing and implementation. The applicant is also committed to continuing the dialogue it has established with organizations and individuals in the Wahiawa community to identify local needs and strengths.

Transportation

Impacts. Without the proposed project, future traffic levels in the region would warrant improvements at the intersection of Kamehameha Highway with Olive Avenue, California Avenue and Kamananui Road; and at the intersection of Wilikina Drive and Kamananui Road. The H-2 Freeway corridor between Waipio and Waiawa is projected to operated at LOS F with or without the project by 2010.

Mitigation. With the project, additional improvements would be required at these intersections as well as the following intersections: Kamehameha Highway/Kilani Avenue, Wilikina Drive/Kamananui Road, and Kaukonahua Highway/Kamananui Road. The project would also require widening of Wilikina Drive and Kamananui Road. With these mitigation measures, both signalized and unsignalized intersections would operate at acceptable levels of service. The developer will provide its fair share of roadway improvements, commensurate to the impact of the project on the existing roadway system. Specific improvements and timing of these improvements will be determined in consultation with the State Department of Transportation (DOT).

Infrastructure

Impacts. The average daily potable water requirement for the proposed development is estimated by Board of Water Supply standards to be 2.9 million gallons per day (MGD). The average daily wastewater estimated to be generated by the development is 1.5 MGD excluding groundwater infiltration. The total runoff from the proposed

development is estimated at 3,136 cfs, or about nine percent more than the 2,890 cfs 10-year storm runoff from the undeveloped site. Pollutants associated with urban runoff will be introduced to the site. However, sediment and chemical pollutants associated with the existing agricultural operations will be reduced.

Mitigation. The applicant will be required to construct all major project infrastructure, including wastewater collection and treatment systems, potable water source, storage and transmission systems, major on-site drainage system improvements, and major electrical and roadway system improvements.

Soils

Impacts. Soils at the area of application belong to the Helemano-Wahiawa association. The soils are classified as "B" or prime agricultural land according to the U.H. Land Study Bureau Detailed Land Classification. The Agricultural Lands of Importance to the State of Hawaii system identifies the project area soils as "Unique Agricultural Land." According to the Proposed Land Evaluation and Site Assessment (LESA) System, the soils at the area of application (except fill land and land on side slopes) would be termed "important agricultural lands."

The soils at the site are very productive, of near neutral pH, well-drained with excellent permeability. The soils are highly suitable for grass land areas and turf. Runoff potential at the site is low, except in the southern boundary areas where slopes increase to almost 90 percent.

Potential adverse impacts include surface runoff, flooding and erosion.

Mitigation. Grading for the development will comply with the Department of Health Administrative Rules, and City and County ordinances and standards. In particular, it will be necessary to obtain a National Pollutant Discharge Elimination System (NPDES) permit or permits from the Department of Health, and a City and County of Honolulu grading permit before any land clearing activities can commence. The latter requires approval of grading, drainage and erosion control plans.

Mitigation measures include the minimization of the need for site disturbance and reshaping of natural landscape elements. Avoiding design elements that encourage development of gullies, reroute streams, or change the natural surface and subsurface drainage is critical for long-term site stability. Temporary erosion control devices can be employed during construction to mitigate impacts. Immediate coverage of bare soil surfaces by seeding with turfgrass or placement of sod will reduce the risk of erosion. Grading will comply with State and County standards and permitting requirements.

Water Resources

Impacts. The project area lies about 650 feet above the Wahiawa High-Level Aquifer, inland of the Underground Injection Control (UIC) line. Any use of the project lands, whether for the proposed urban development or for its current use of pineapple cultivation, has the potential to result in contamination of the groundwater below. However, it is expected that the proposed project will not pose any significant threat to the supply and quantity of the underlying groundwater aquifer if developed within existing environmental guidelines and appropriate mitigative measures. Development of the site is estimated to reduce groundwater recharge of the area by about one million gallons per day.

Mitigation. Mitigation measures include possible detention and settling ponds within the golf course, and vegetative buffers between the urban development and the adjacent gulches. These buffers will reduce the amount of sediment and chemicals reaching the adjacent water resources through erosion and runoff. Water quality monitoring will also be considered as a further measure to minimize potential negative impacts of the project. Pesticide transport from the golf course via runoff could be further reduced with the implementation of an Integrated Turf Management System (TMS) program which will seek to reduce the quantity of pesticide applied, and will allow application only when needed, and will be timed to avoid predictable climatic situations that could lead to runoff. The TMS also includes critical principles of nutrient management at the site.

Flora and Fauna

Impacts. No proposed or listed U.S. Fish & Wildlife Service or State of Hawaii listed plant taxa were found during field surveys of the property. Introduced plants make up the vegetation of this site and as such should not prevent future development of the area.

No endemic land birds were recorded during the surveys, although two species of endemic and endangered waterbirds were recorded: American Coot and Common Moorhen. The most valuable wildlife habitat at this site are the wetlands associated with Wahiawa Reservoir. No development is proposed for this area.

Mitigation. Provision of the proposed lakefront and ridgeline parks will provide a buffer between these habitats and the development. Strict environmental guidelines governing the handling and disposal of chemicals will be followed at the proposed commercial-light industrial area to avoid adverse impacts to Wahiawa Reservoir.

Air Quality

Impacts. Although the State conducts no routine monitoring in the project area, it is believed that all state and federal standards are being met in the project area due to the lack of major air pollution source activity. The principal source of short-term air quality impact will be construction activity. Long-term air quality impacts will result from mobile and off-site stationary sources such as motor vehicles, electrical generation, solid waste disposal, wastewater treatment, agricultural burning, and pesticide use.

Mitigation. Mitigation measures include compliance with government dust control requirements; frequent watering of exposed soil areas; increased highway capacity; increased bus service; design measures to reduce electrical demand; limiting agricultural burning to periods with favorable atmospheric conditions; use of non-chemical pest control measures; and providing a recycling program for the project.

Noise Quality

Impacts. The project site currently experiences relatively low noise levels, typical of rural or semi-rural areas. The dominant noise sources include wind, traffic movements, and occasional aircraft fly-overs. The traffic noise level increase will have a minimal impact on noise sensitive locations in the project vicinity. Activities in the proposed industrial, commercial, and civic areas may be potential sources of noise, causing annoyance and even exceeding Department of Health noise limits if not

properly controlled. The U.S. Army has indicated that its training operations will generate noise levels which may impact the western areas of the project.

Mitigation. Measures to mitigate noise impacts generated by project site activities include acoustic enclosures, noise barrier walls, etc. Traffic noise impacts to residential areas can be mitigated by means of setbacks. Prospective residents will be informed of the Army's training practices.

Scenic and Visual Resources

Impacts. Development of the project will gradually and irretrievably alter the visual resources along Whitmore Avenue and Kamehameha Highway as the present agriculture/open space views diminish and new urban uses are developed. The significant views of the Waianae and Koolau Ranges will not be impacted by the development.

Mitigation. Open space will be preserved in the forms of a golf course and various parks and open space. The development will provide public access to the scenic resources along the northern edge of Wahiawa Reservoir and Kaukonahua Stream and the ridge above Poamoho Gulch through public parks and open space. The siting of golf fairways along Kamehameha Highway will contribute to an open greenbelt along this corridor.

Recreational Facilities

Impacts. The proposed project will provide new park and recreational opportunities for the residents of the development as well as the residents of the greater Wahiawa region. The development includes a public play golf course, community park, linear lakefront park with a boat launch ramp, ridgeline park along Poamoho Gulch, and a neighborhood parks buffering Kukaniloko from residential development to the south.

Historical and Archaeological Resources

Impacts. Two archaeological sites are located in the project vicinity. Site 218 is the Kukaniloko Birthstones, which is contained in a 5-acre parcel acquired from the Galbraith Trust Estate by the State of Hawaii. Site 4571 is a stacked rock wall at the bottom of Poamoho Stream Gulch. Neither site is located in the area of application (although the project essentially surrounds Site 218). According to documentary research, another heiau known as Hoolonopahu (Site 219) was located nearby Kukaniloko. The site was destroyed by pineapple cultivation near the turn of the century and no information concerning the heiau's size, construction and precise location are available. No cultural materials were documented in any of twelve shovel tests excavated throughout the property.

A view corridor analysis was conducted which indicates that views of the Waianae and Koolau Ranges from Kukaniloko will not be significantly impacted by project development. Existing views of Kolekole Pass and Mount Kaala will not be impaired. Closer range views of the existing pineapple fields will be changed to urban uses.

Mitigation. The proposed plan provides an additional six acres to the five-acre Kukaniloko State Park site, and surrounds this with golf fairways in order to maintain a passive, open space environment around the site. Other surrounding uses will include a community park and low-density residential uses to the south. According to the Department of Land and Natural Resources, State Historic Preservation Division, low-

rise, low-density development, as proposed, is appropriate for the area surrounding Kukaniloko. The applicant will continue to consult with the Division of State Parks and preservation groups to provide for the appropriate preservation and interpretive measures for Kukaniloko.

The sightline analysis determined that vegetative screening at the perimeter of the 11-acre Kukaniloko Park and within adjacent land uses would mitigate project impacts. Site grading within the Park boundaries should also be considered as a complementary approach to perimeter landscaping to mitigate against visual intrusions into the Park. A 100-foot landscaped setback is also planned along both sides of Kamehameha Highway to further buffer adjacent urban uses.

Agricultural Impacts

Impacts. The development will result in the loss of about 800 acres of prime agricultural lands. A reduction in the amount of land available to the current lessee, Del Monte Fresh Produce (Hawaii), Inc., due to the proposed development could impact the company if replacement lands could not be secured. If sufficient replacement lands can be found, then the impact of the project will be small, with no loss in production, revenues, or employment. If replacement lands were provided by lands now farmed by Oahu Sugar Company (OSCo) in the upper Kunia area, this could, in turn, have an indirect impact on the viability of its operations. This impact may fall more heavily on the major OSCo lessors due to greater concessions required to keep OSCo in operation. However, the long-term viability of the sugar industry in Hawaii is dependent on the world sugar market, rather than the preservation of the current farming acreage. The average price of sugar in the world market is expected to remain well below the production costs for all countries because most sugar is traded in controlled and/or subsidized markets, while surplus sugar is "dumped" onto the world market for sale at a loss.

Mitigation. Although the project will result in the loss of about 800 acres of prime agricultural lands over a five- to seven-year phase-out period, the applicant intends to make a long-term commitment of 1,300 acres to the north of Kamananui Road to agriculture. Hawaiian Trust Company, Ltd. has worked very closely with Del Monte to come up with a plan that would minimize impact to the plantation and its workers. Under the proposed phasing plan, Del Monte will not need replacement lands until 1999. As noted in a letter from Dan Wilson, General Manager of Del Monte's Hawaii operations (attached as Appendix J), Del Monte feels that the commitments and agreements it has made with Hawaiian Trust will allow it to remain a significant force in the Hawaii pineapple industry for years to come. The letter also notes that Del Monte has already found 400 acres of replacement land in the Kunia area.

Retraining and job placement assistance may be necessary in the event that pineapple workers are displaced as a result of the project. (This may be appropriate even if pineapple workers are not displaced.) The applicant is willing to work with the affected parties and relevant human services organizations and agencies to address this situation. It should be recognized that as the State's economy moves away from the plantation system of agricultural production, job displacement and retraining will be a statewide rather than local issue, and should accordingly be addressed on that level.

1.7 Alternatives Considered

A number of alternatives were considered for the project site including: a smaller scale development; no action; agricultural and/or aquacultural park; lower density

alternative; university concept; military family housing concept; and a sports center concept. More detailed discussion of these alternatives can be found in Chapter 7 Alternatives to the Proposed Action.

After consideration of each alternative, the applicant found the proposed project on the area which is the subject of this Central Oahu DP Land Use Map amendment application the most feasible and beneficial use of the site.

1.8 Unresolved Issues

Necessary Permits

The project will require various land use permits and approvals, which are listed in Section 1.9.

Agricultural Impacts

The project's impact on the current lessee, Del Monte Fresh Produce (Hawaii), Inc., is still undetermined. Because of the development phasing plan, Del Monte will not require replacement lands until 1999. It is currently negotiating with other lessors and landowners to secure these lands. The project's impact on sugar plantation operations on Oahu are also undetermined, although it is likely that world economic forces will play a larger role in determining the continued viability of these operations.

Radio-Frequency Interference

The Navy considers the potential radio-frequency interference of the Naval Computer and Telecommunications Area Master Station, Eastern Pacific (NCTAMS EASTPAC) Circularly Disposed Antenna Array (CDAA) by the project an unresolved issue.

Compatibility with Wahiawa Community

The project's social "fit" or compatibility with existing nearby communities cannot be fully predicted or guaranteed. Still, available evidence suggests that the project can over time be integrated with Wahiawa and Whitmore Village. Such integration would depend on design decisions and continuing community involvement. The "rural" or "small town" identity of the project and Wahiawa as a whole depends in part on planning described in the EIS (e.g. project population densities lower than those found in Wahiawa today), and in part on an effort to identify, in collaboration with existing Wahiawa residents, local needs and strengths to be addressed. In the interest of comprehensive planning and maintaining ongoing community involvement in the planning process, the applicant is recommending that an "urban design plan" for the project be prepared as a condition of Development Plan approval. The plan would allow for a closer evaluation of *appropriateness*, *contextual design*, and *community fit*. The plan would be reviewed by the City Council concurrent with first phase zoning approvals. The plan would provide overall and site specific design guidelines for the development consistent with the design philosophy established in the EIS, provide architectural, landscape, lighting, and other design details for the various land use elements and circulation systems, and provide greater detail in the area of project phasing and implementation.

1.9 Compatibility with Land Use Plans and Policies

Chapter 3 contains a discussion of the project's compatibility with existing government plans, policies and objectives. Because of the competing nature of many of these plans, policies and objectives, the project supports many and is inconsistent with others.

1.10 Necessary Permits and Approvals

<u>Approval Required</u>	<u>Authority</u>
<u>State of Hawaii</u>	
■ Land Use District Boundary Amendment	Land Use Commission
■ Water Use Permits	Commission on Water Resource Management
■ National Pollutant Discharge Elimination System Permit	Department of Health
■ Stream Channel Alteration Permit*	Department of Land and Natural Resources
■ Conservation District Use Permit	
<u>City and County of Honolulu</u>	
■ Central Oahu DP Land Use Amendment	City Council
■ Central Oahu DP Special Provisions Amendment	
■ Central Oahu DP Public Facilities Map Amendment	
■ Zone Change	
■ Subdivision Approvals	Department of Land Utilization
■ Dewatering Permit*	Department of Public Works
■ Building Permits	Building Department
■ Grading Permits	

* possibly required

CHAPTER 2

Project Description

CHAPTER 2	PROJECT DESCRIPTION
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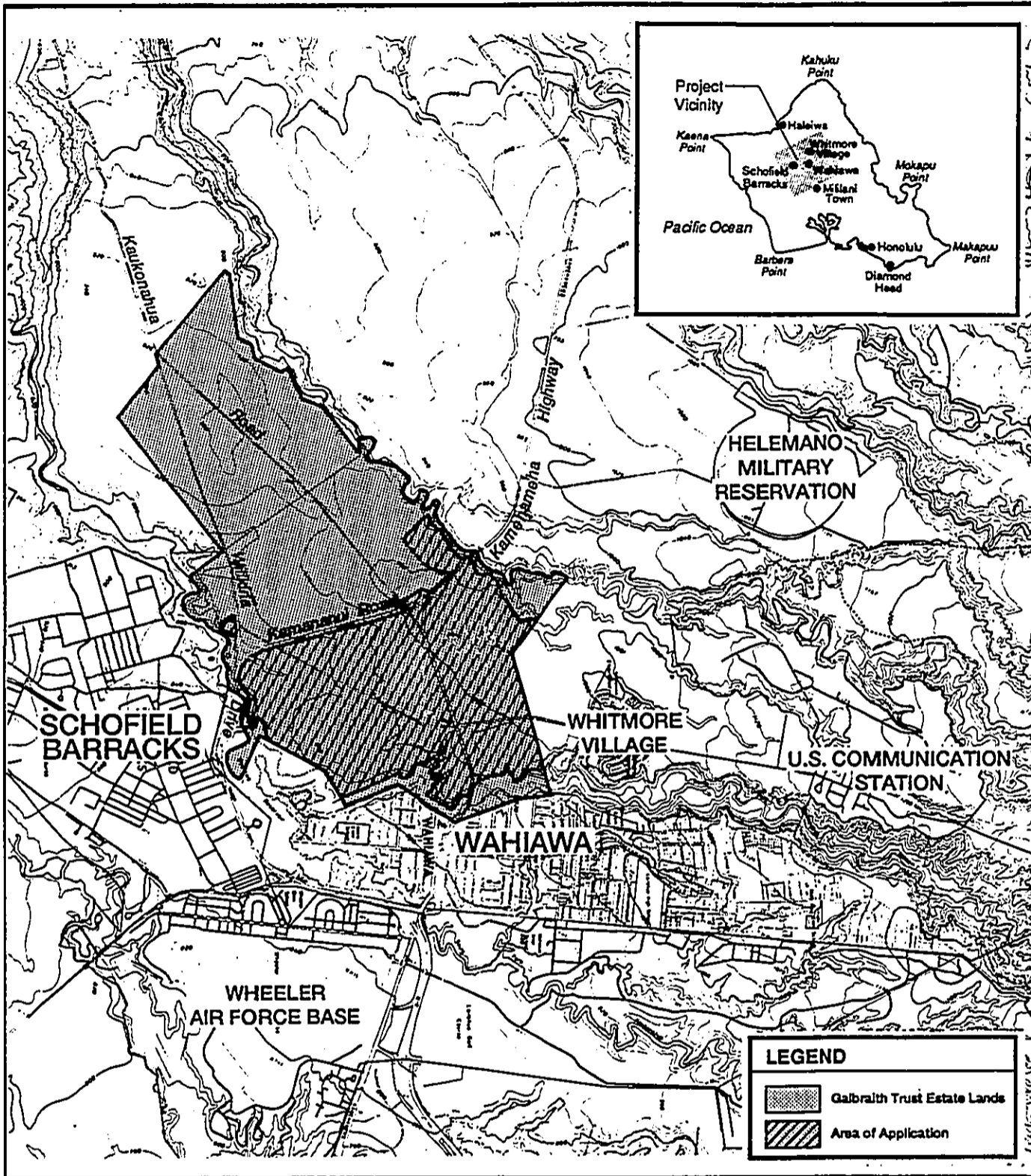
2.1 Location

The Galbraith Trust Estate owns approximately 2,200 acres adjacent to Wahiawa town, generally between the Wahiawa Reservoir (also referred to as Lake Wilson) and Poamoho Gulch (the Estate also owns several parcels adjacent to the south bank of the reservoir, within Wahiawa Town). Of the 2,200 acres, about 877 acres lie within the overall project boundaries. A proposed six-acre boat launching area adjacent to Wilson Reservoir is and will continue to remain in the State Conservation District and therefore is not included with the DP application area. The total area included in the DP application is 871 acres (877 ac. minus 6 ac.). The shaded area on Figure 1 indicates the entire 2,200-acre land holding, while the hatched area indicates the 877-acre project area. Figure 2 provides various photographic images of the larger 2,200-acre land holding.

The 877-acre project area is generally bounded by the Wahiawa Reservoir to the south, Kamananui Road and Kamehameha Highway to the northwest, Poamoho Gulch to the north and Dole Foods' pineapple fields to the east. Kamehameha Highway roughly bisects the property into a 320-acre "mauka" parcel and a 525-acre "lower" parcel. The following table summarizes the tax map parcels involved in the application.

<u>Parcel</u>	<u>Tax Map Key #</u>	<u>Approximate Acreage</u>
A	7-1-001: por. 5 7-1-001: 28	223.485
B	7-1-001: por. 6 7-1-001: por. 27	71.9489
C	7-1-001: por. 8 7-1-001: por. 25 7-1-001: por. 26	512.1695
D	7-1-001: por. 1	4.585
E	7-1-001: 7 7-1-001: 29 7-1-001: 32	7.271
F	7-1-001: por. 11 7-1-001: por. 30 7-1-001: por. 31	3.209
	Poamoho Camp	approx. 32.0
	Public rights-of-way	13.839
	Boat Launch site	approx. 6.0
	Poamoho Camp right-of-way	approx. 1.5
Total		877.2094

The application area also includes two parcels north of Kamehameha Highway: the existing 32-acre Poamoho Camp and a six-acre parcel for a pineapple exhibit and



Location Map

Figure: 1

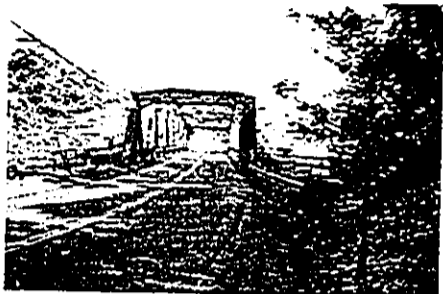
WAHIAWA LANDS MASTER PLAN

Prepared For: Galbraith Trust Estate,
Hawaiian Trust Company, Ltd., Trustee
Prepared By: Helber Hastert & Fee, Planners



Not to Scale

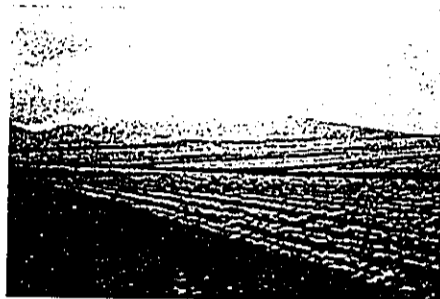
WAHIAWA LANDS



1 Karsten Tshot Bridge as seen from Wahiawa town approach.



2 Reservoir viewed from the bridge looking west.



3 View from Whitmore Avenue looking toward Waiānāe Mountains.



4 View from Whitmore Avenue looking toward Kamehameha Highway.



5 Birthing Stone site (Kukaniloko) looking toward Kamehameha Highway.



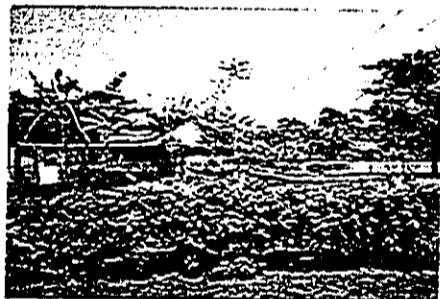
6 View from Birthing Stone site towards the southwest.



February 1989



7 View from Kamehameha Highway of its intersection with Whitmore Avenue, looking toward Wahiawa town.



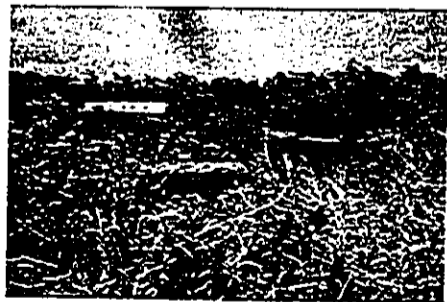
8 Housing at Poamoho Camp.



9 View of Poamoho Camp with Koolau Mountains in background.



10 View from Kaukonahua Road above intersection with Wilkins Drive, looking toward Wahiawa town. The Dole packing plant can be seen at the far left.



12 View of reservoir and Mala Street area looking towards the northwest.



13 Lake Wilson spillway as viewed from north bank.



14 View of Lake Wilson spillway from Kemoo Farms bank of reservoir.

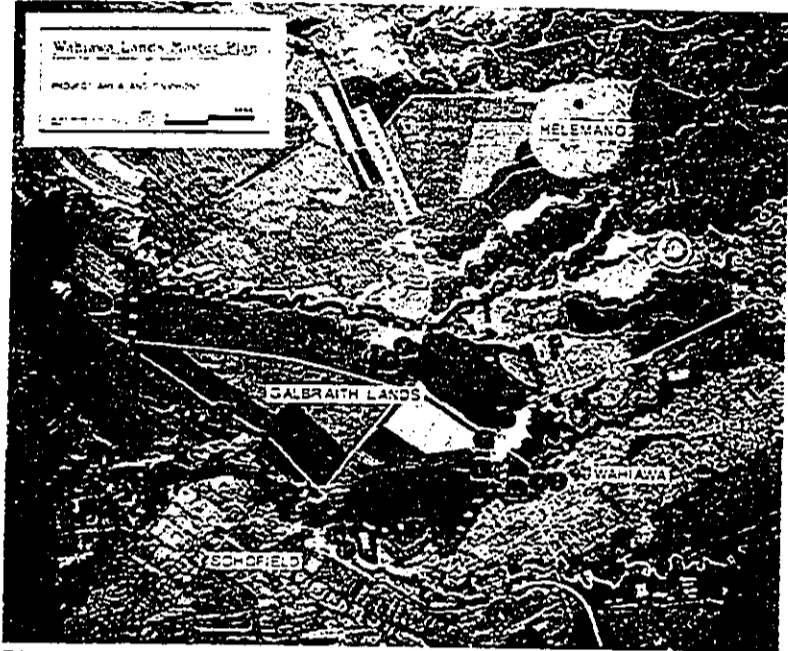


15 Lake Wilson as viewed from Kemoo Farms bank, looking toward Wahiawa town.

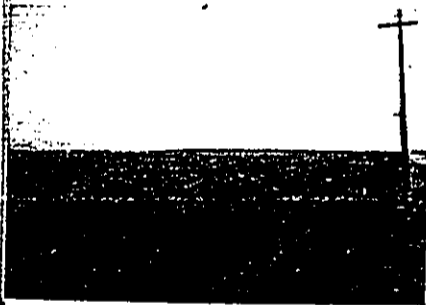
Figure: 2

Views of Property

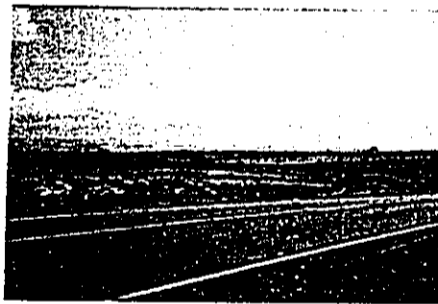
WAHIAWA LANDS
MASTER PLAN



February 1989



1 View from Kauhoulama Road above intersection with Wilikina Drive, looking toward Wahiawa town. The Dole packing plant can be seen at the far left.



11 View of Galbraith lands from Wilikina Drive, looking toward Whitmore Village. The NC-TAMS EASTPAC antenna dishes appear as small white dots near the center of photo.



5 Lake Wilson as viewed from Kemoo Farms bank, looking toward Wahiawa town.



Helber Hastert & Fee Planners

Prepared For: Galbraith Trust Estate,
Hawaiian Trust Company, Ltd., Trustee
Prepared By: Helber Hastert & Fee, Planners

commercial stand, as well as a 4.5-acre parcel immediately west of Wilikina Drive, near the Wilikina/Kamananui Road intersection (planned for a wastewater treatment plant). The application area surrounds but does not include the five-acre Kukaniloko Birthing Stone site (which encompasses TMK parcel #7-1-01: 04, 0.585 acres) recently acquired by the State Department of Land and Natural Resources (and presently in the process of being subdivided). Figure 3 shows the area of application in relation to the relevant tax map parcels.

2.2 Historical Perspective

According to historical documentary research conducted by the project archaeologist, a substantial prehistoric agricultural complex once existed in the vicinity of the project area (Paul H. Rosendahl, Ph.D., Inc., 1992). The presence of the Kukaniloko Birthstones and the former presence of several *heiau* in the project vicinity indicate this area was once associated with the *alii*. Based on documentary research and previous archaeological research, occupation in the vicinity of the project area may have occurred as early as the 12th century AD.

Historic documentary research also indicates that a substantial historic period occupation occurred in the vicinity of the project area. Part of this occupation is likely to have been related to the sandalwood harvesting in the early 1800s in the neighboring ahupua'a of Waianae-Uka.

George Galbraith acquired the property and subsequently died in 1904, naming Hawaiian Trust Company, Ltd. as trustee over the subject 2,200-acre parcel and other remnant lands, including some property in Nuuanu. The Galbraith Trust will terminate in 2007, after which the assets will be distributed to its beneficiaries.

2.3 Existing and Surrounding Land Uses

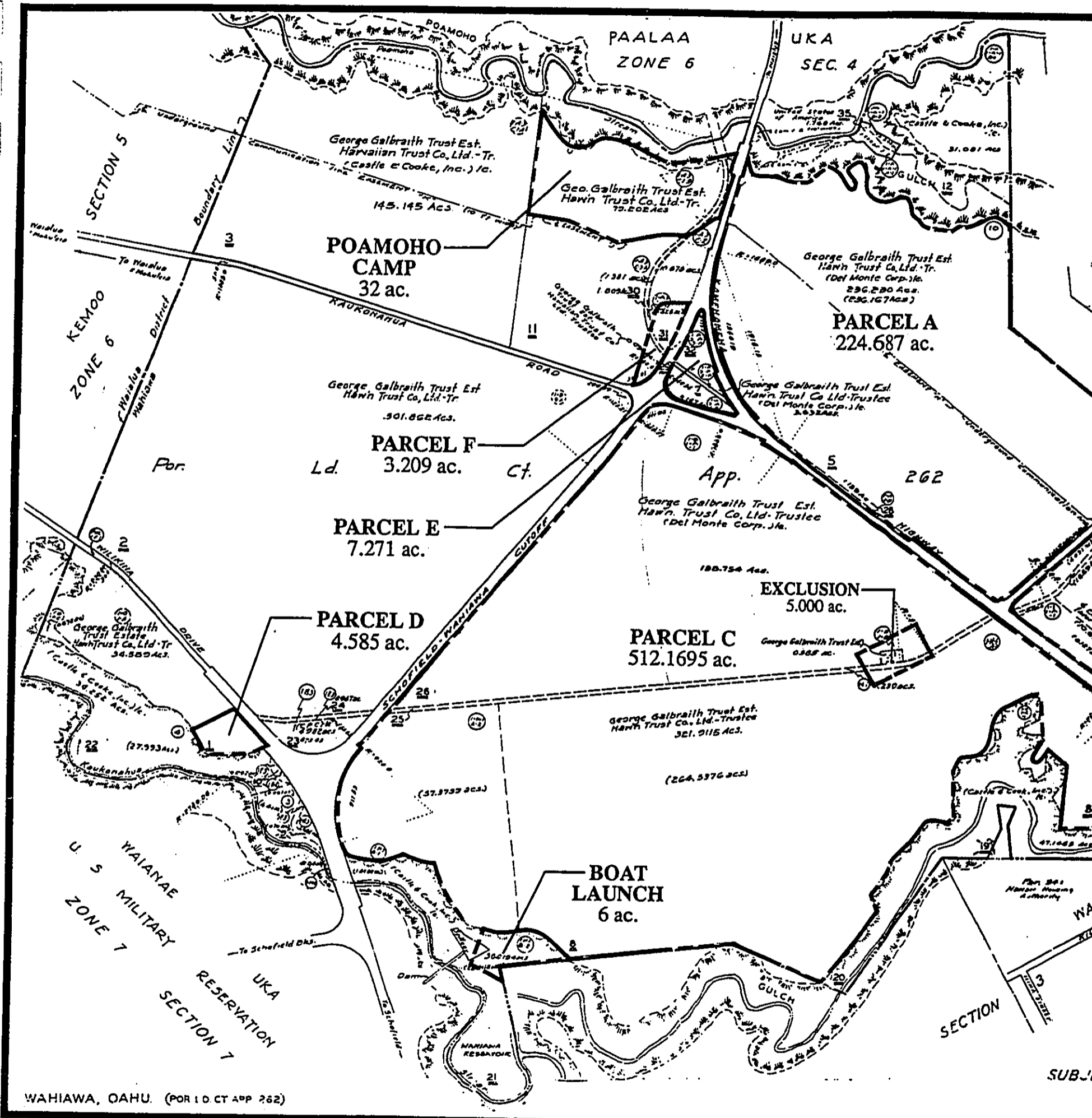
The application area is presently under lease to Del Monte Fresh Produce (Hawaii) Inc., which farms the area for pineapple. The Del Monte lease expires on December 31, 1994. Del Monte also maintains 65 employee dwellings at Poamoho Camp (1990 pop. 282) on lands leased from the applicant, as well as a pineapple exhibit and maintenance storage warehouse in the triangular parcel at the intersection of Kamehameha Highway and Kamananui Road.

As indicated in Figure 1, the application area lies directly north of Wahiawa Town (1990 pop. 130,698) and the Schofield Barracks/Wheeler Field Army complex (1990 pop. 22,197). To the east lies Whitmore Village (1990 pop. 17,386) and the Naval Communications Station (NCTAMS-EASTPAC). To the north lies the new residential community constructed at the Helemano Military Reservation.

2.4 Objectives of the Action

The objective of this action (Central Oahu DP Land Use Map amendment) is to allow the development of 3,100 residential units, a business center, commercial-mixed use area, a commercial-light industrial park, golf course, and public, recreational, and commercial facilities, together with necessary supporting infrastructure, within the 877-acre project site. The application also includes a request to redesignate the area occupied by Poamoho Camp from Agriculture to Residential, in keeping with its existing use.

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WAHIAWA, OAHU. (POR 10 CT APP 262)

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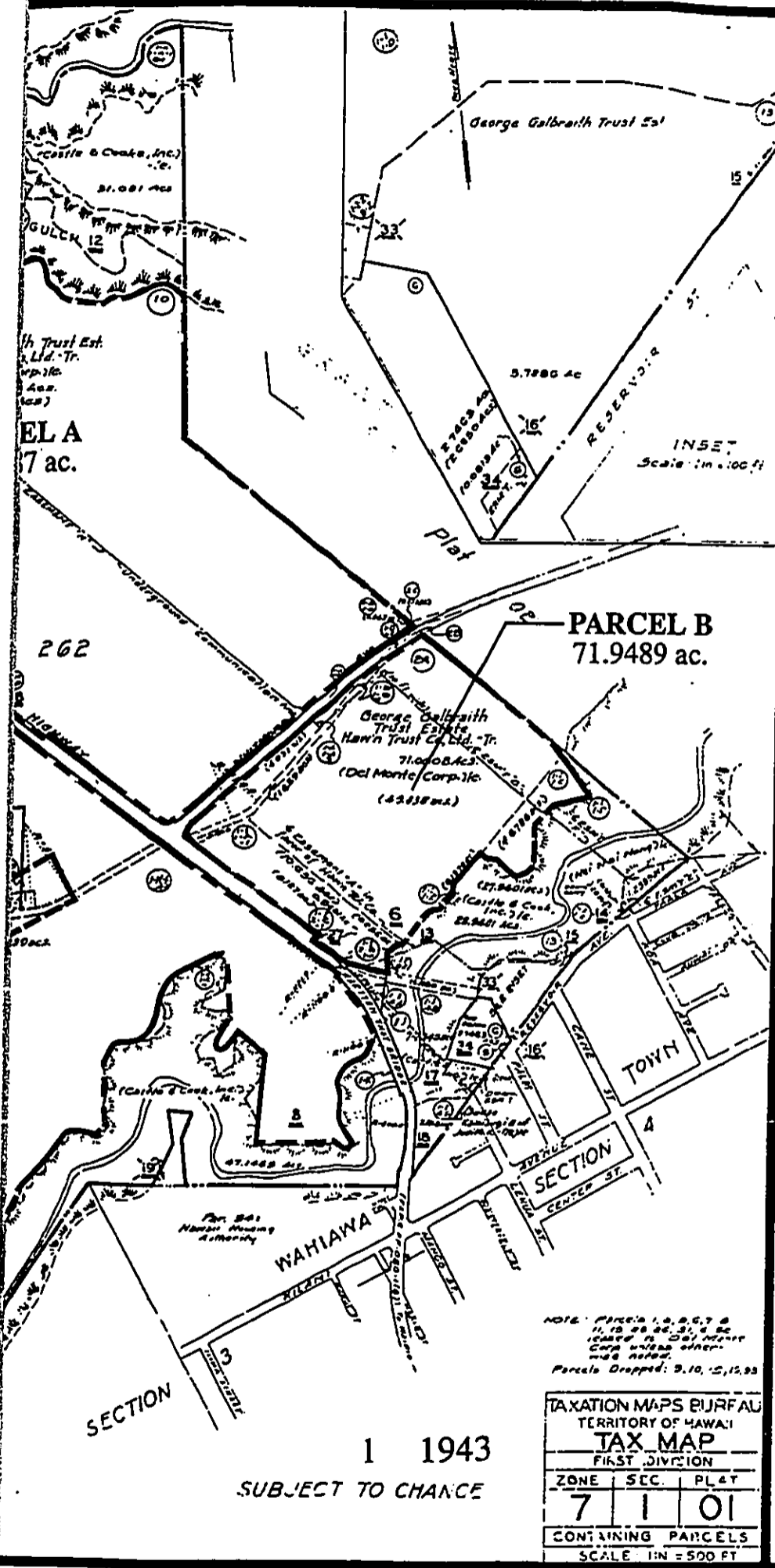
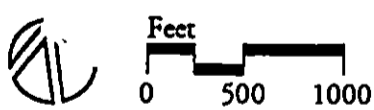


Figure: 3

Tax Map Parcels

WAHIAWA LANDS
MASTER PLAN

Note: Parcel acreages from March 5, 1993
Boundary Survey prepared by
Sam O. Hirota, Inc.



Prepared For: Galbraith Trust Estate,
Hawaiian Trust Company, Ltd., Trustee
Prepared By: Helber Hastert & Fee, Planners

TAXATION MAPS BUREAU
TERRITORY OF HAWAII
TAX MAP
FIRST DIVISION

ZONE	SEC.	PLAT
7	1	01

CONTAINING PARCELS
SCALE 1 IN = 500 FT

2.5 Project Proposal

Hawaiian Trust Company, Ltd. (applicant and trustee for the Galbraith Trust Estate) began its planning process for the entire 2,200-acre parcel in early 1992. The process consisted of a series of meetings in Wahiawa with a community advisory group during the first three quarters of the year where various development scenarios were analyzed and reviewed with input from the advisory committee. The advisory committee is comprised of representatives from Wahiawa's major community organizations whose role is to facilitate information exchange between the parent organization and the planning group. A team of EIS technical consultants was assembled and technical studies to investigate development impacts were initiated during this period. General project briefings involving most of Wahiawa's major community organizations were made during the last quarter of 1992. Town-wide meetings have been held in Wahiawa in December 1992 and March 1993 to present the plan and gather additional community input.

The development concept provides a significant supply of affordable housing integrated with recreational and employment opportunities to serve both the new community and the larger Wahiawa region.

As discussed, the proposal generally limits the development area to the 877 acres south of Kamananui Road and Kamehameha Highway. Approximately 1,300 acres of Galbraith Trust Lands to the north of Kamananui Road would remain in agriculture or open space (farmed in pineapple by Del Monte). As noted previously, the public thoroughfares of Kamehameha Highway and Whitmore Avenue bisect the application area, occupying a land area of approximately 15.5 acres. Of the 15.5 acres, 1.5 acres of Kamananui Road would be consolidated into the proposed "pineapple museum" area, pending a proposed redesign of the current Kamananui/Kaukonahua/Kamehameha Highway intersection as shown on the concept plan. Accordingly, only 13.5 acres (15.5 minus 2) would remain as public rights-of-way. The rights-of-way are included in the overall DP Land Use Map amendment application acreage by convention. The concept plan and associated land use summary discussed on the following pages are based on a 863.5-acre project area, net of the 13.5-acre public rights-of-way.

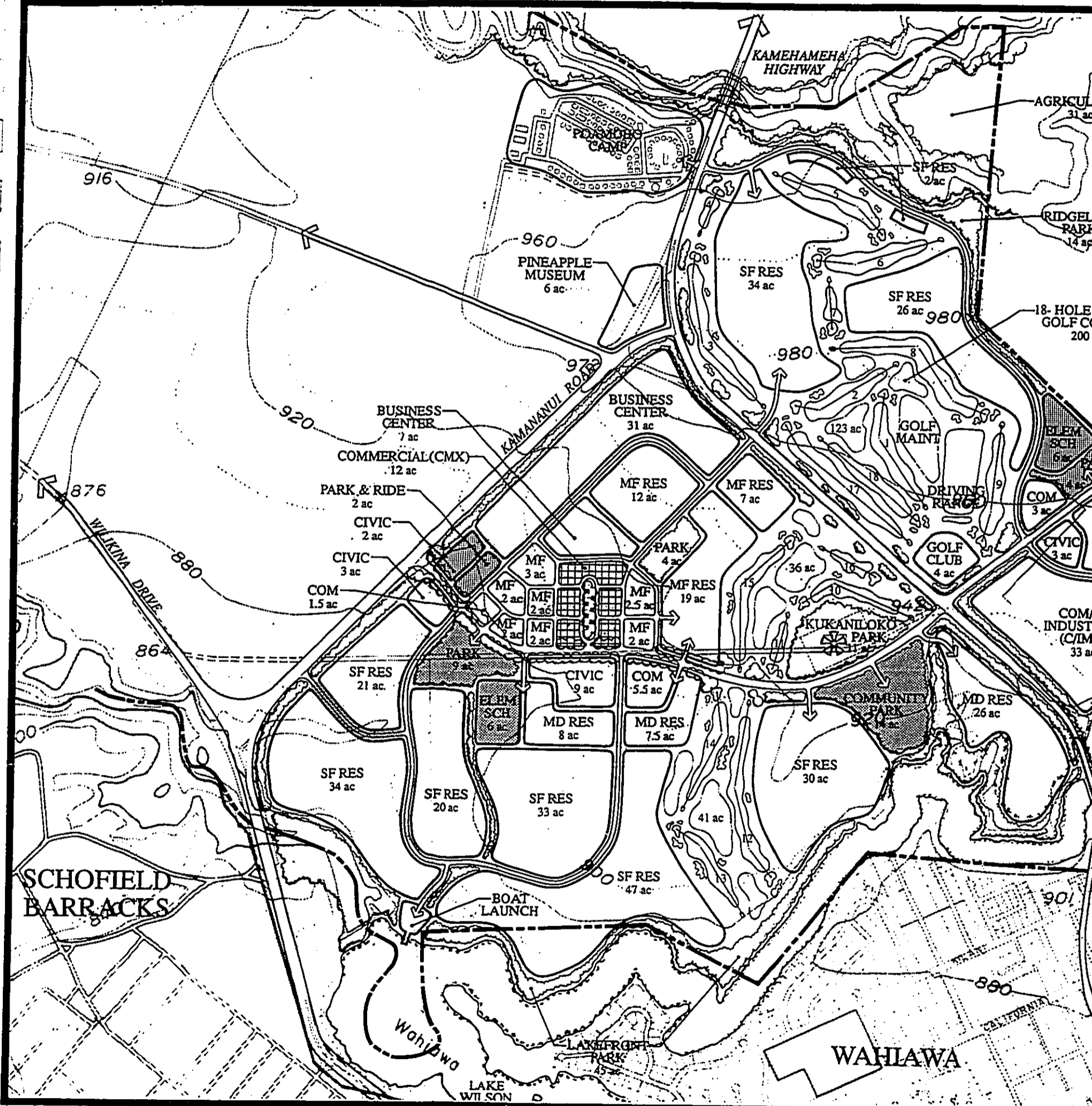
The concept plan for the 863.5-acre area is presented as Figures 4 and 4A. As discussed earlier, Figure 4 represents the DEIS concept plan while Figure 4A represents the revised FEIS concept plan. Table 1 summarizes the proposed land uses and corresponding acreage for each use, as designated in the plan. The following section describes the overall development concept, program and proposed land uses.

Overall Development Concept

The proposed development is conceived as a "balanced" community providing largely affordable housing and a range of employment opportunities. The plan embraces neo-traditional town planning concepts relating to land use mix, density, street patterns, pedestrian circulation, open spaces, and architectural character to achieve the desired objective of creating a sense of place or community. These concepts or principles are particularly evident within the town center and adjacent areas. A brief summary of each of these concepts is provided below.

Land Use Mix. The plan seeks to integrate rather than segregate compatible land uses to make it easier for residents to walk between homes, jobs and commercial services. With regard to residential mix, the plan hopes to achieve a socio-economic integration

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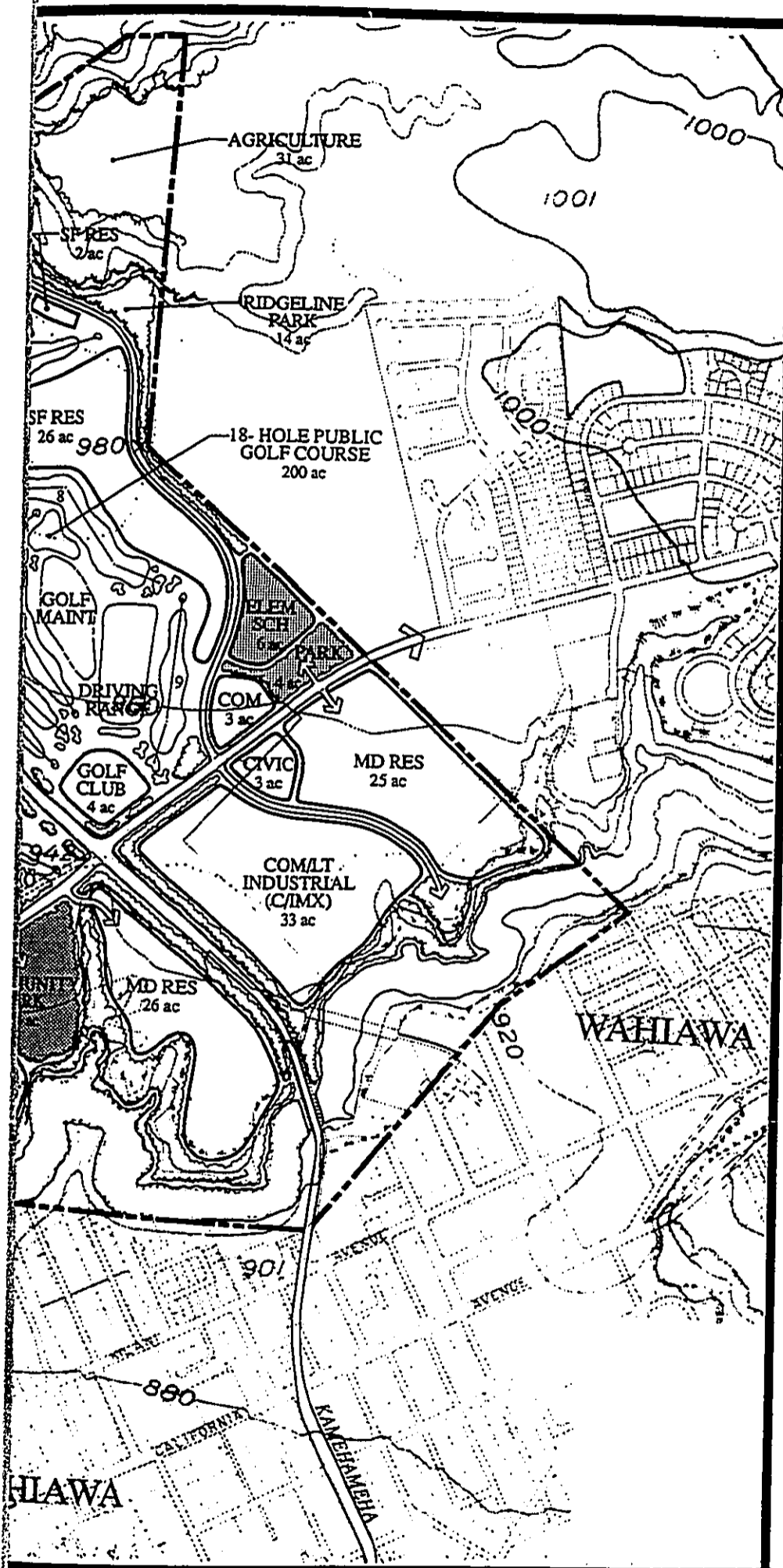

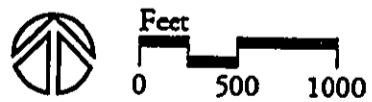


Figure: 4

Draft EIS Concept Plan

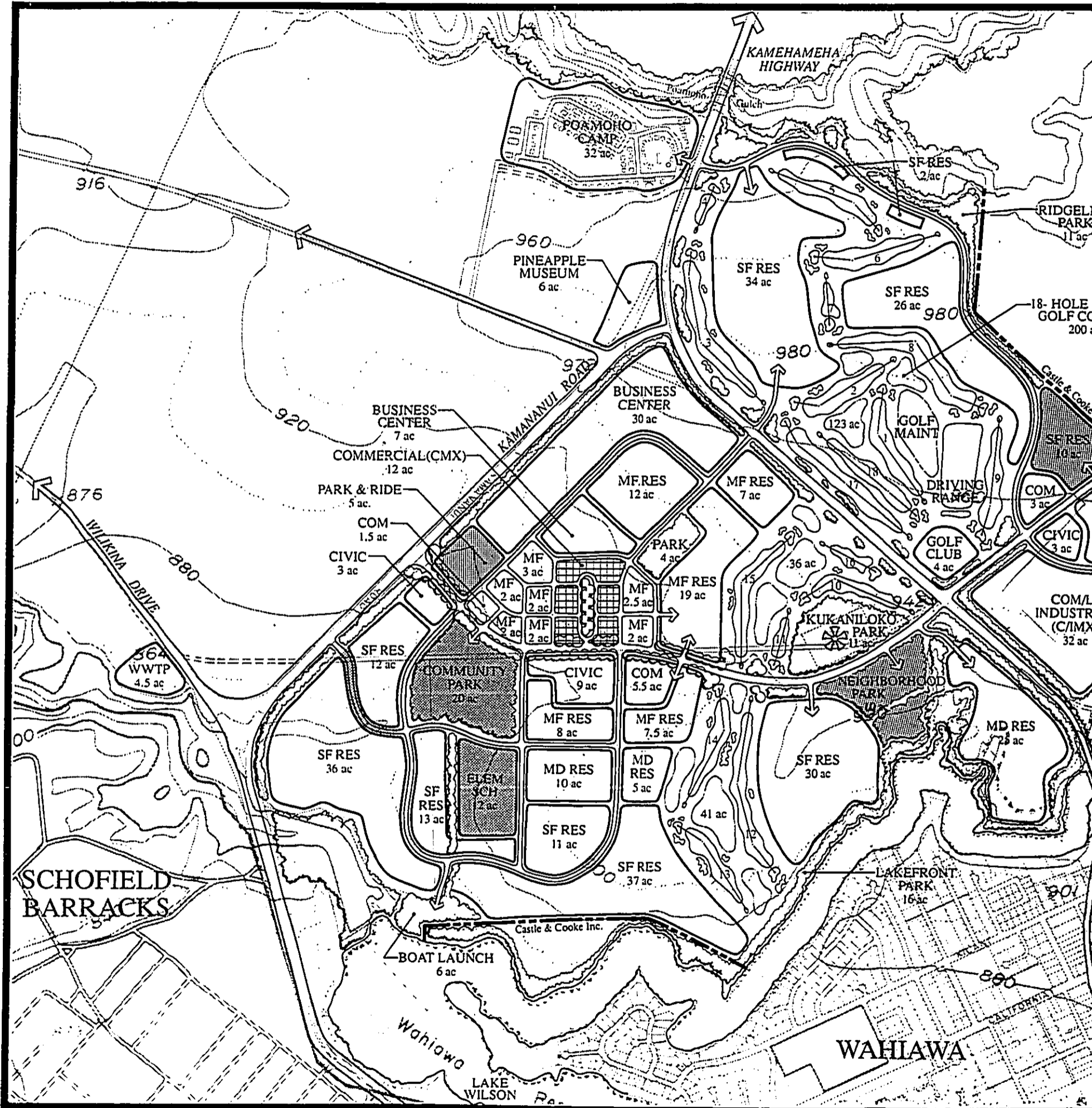
WAHLAWA LANDS MASTER PLAN

 Land Uses Changed
Based on DEIS Comments
(See Figure 4A for Revised Plan)



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Prepared By: Helber Hastert & Fee, Planners

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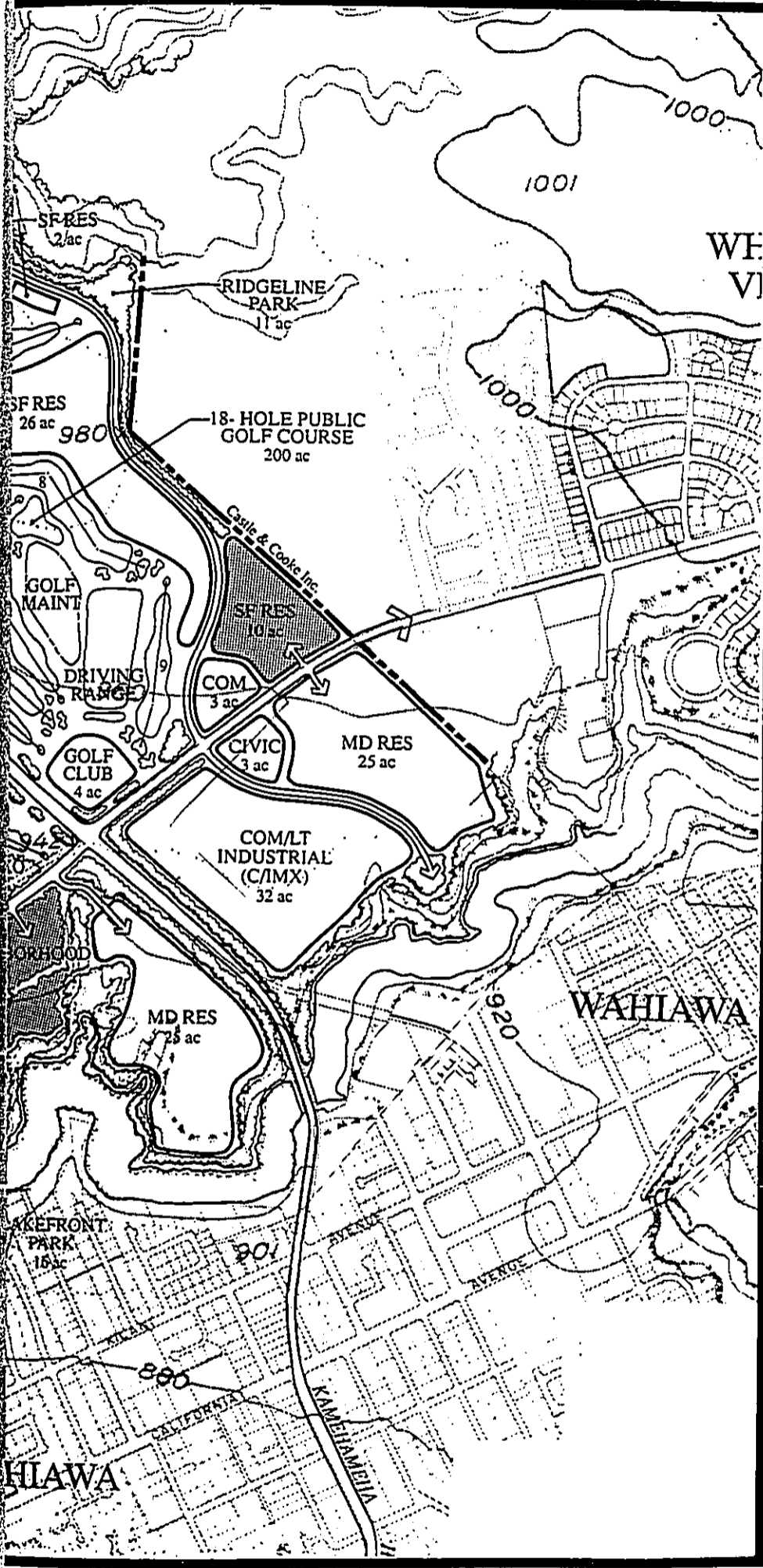

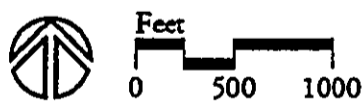


Figure: 4A

Final EIS Concept Plan

WAHIAWA LANDS
MASTER PLAN

 Land Uses Changed
Based on DEIS Comments
(See Figure 4 for Previous Plan)



Prepared For: Galbraith Trust Estate,
Hawaiian Trust Company, Ltd., Trustee
Prepared By: Helber Hastert & Fee, Planners

Table 1

**WAHIAWA LANDS MASTER PLAN
Development Concept Plan**

Land Use	Area (Acres)	Density (Du/Ac)	Dwelling Units
<u>Residential</u>			
Single Family (S.F.)	211	6.0	1,266
Medium Density (M.D.)	65	10.0	650
Multi-Family (M.F.)	69	15.0	1,036
Subtotal	345	8.6 (Ave.)	2,952
<u>Commercial</u>			
Convenience	10		
Mixed Use (Com./Res.)	12	15.0 – 30.0	148
Commercial/Industrial			
Mixed Use (C/IMX)	32		
Business Center (CMX)	37		
Subtotal	91		148
<u>Other</u>			
Wastewater Treatment Plant	4.5		
Elementary School	12		
Civic	15		
Park & Ride	5		
18-hole Public Golf Course	200		
Golf Clubhouse	4		
Parks	34		
Poamoho Ridgeline Park	11		
Wilson Lakefront Park	16		
Boat Launch Park	6		
Poamoho Camp	32		
Pineapple Museum	6		
Kukaniloko Park	11		
Open Space/Circ.	71		
Subtotal	427.5		
TOTAL	863.5 ACRES*		3,100 UNITS

* Excludes 13.5 acres of public rights of way (portions of Kamehameha Highway, Whitmore Avenue, and Kaukonahua Road)

through creative site planning and design, furthering a major objective of providing homes for a spectrum of incomes, lifestyles, ages and family structures.

Density. Relatively higher residential densities are proposed to promote the objective of creating "walkable", pedestrian-oriented spaces. The plan identifies a significant amount of multi-family homes to meet this need, as well as smaller lot single-family detached, duplex and smaller townhouse products.

Street Patterns. The grid-like street pattern illustrated within the town center evokes the more typical neo-traditional street pattern (similar to that found in Wahiawa today). The applicant will pursue other concepts such as narrower residential streets with lower posted speeds, on-street parking, incorporating alleyways to access garages behind homes, and related approaches to minimize the dominance of automobiles on the landscape and to enhance pedestrian safety and amenity.

Pedestrian Circulation. The large mall proposed for the town center and the well defined block pattern and architectural scale are designed for pedestrian accessibility. Automobile access will of course be accommodated but not at the expense of sacrificing ample sidewalks, trails and bikeways.

Open Spaces. The plan provides for the active recreation neighborhood and community park spaces required by ordinance. The plan contemplates an added layer of smaller squares, greens and small but intensively used recreation areas within the various neighborhoods. A system of linear parks along the Wahiawa Reservoir and Poamoho Gulch frontages will tie into the internal roadway system and other green beltways to provide for a non-motorized "greenway" system throughout the project.

Architectural Character. The DP Land Use Map Amendment stage is too early in the design process to discuss much detail in the way of the proposed architectural character. The critical importance of *appropriate* architectural character to achieving the ultimate objectives of creating a sense of place is recognized at this time however. Identifying the appropriate relationship of buildings to adjacent public spaces with regard to overall aesthetics and circulation is extremely important in the design process. The forthcoming design process will also look into vernacular themes drawing from the more rural, country character of Wahiawa and similar towns, to develop an appropriate design vocabulary.

Sense of Community. The successful synthesis of the foregoing design principles will lead to the creation of a sense of place or community missing from more modern planned unit developments. The planners and designers will be looking closely to Wahiawa as a model to emulate with regard to historic prototypes, treatment of open space, and any of the traditions which promote the neo-traditional vision.

A review of each of the major project elements illustrated in the concept plan is provided below:

Residential-East of Kamehameha Highway. The plan sites market-priced, single-family homes (6 units/acre) along the golf course to the east of Kamehameha Highway, between Whitmore Avenue and Poamoho Gulch. This area also includes a site for a small convenience commercial center. The plan also includes a medium density residential area (10 units/acre) east of Kamehameha Highway, between Whitmore Avenue and Wahiawa Reservoir, along with a three-acre site reserved for civic uses.

Residential-West of Kamehameha Highway. South of the proposed Whitmore Avenue extension (ultimately connecting with Kamananui Road), the plan includes more single-family housing oriented to Wilson Reservoir and the proposed golf course.

Town Center. The development proposal includes a "town center", located west of Kamehameha Highway along the Whitmore Avenue extension. The concept consists of a grid layout of blocks organized around a pedestrian mall, with a higher-density residential/commercial mixed use core area (see Figure 5). The block configuration allows for flexibility in planning the multi-family residential/commercial uses and facilitates logical phasing of the development.

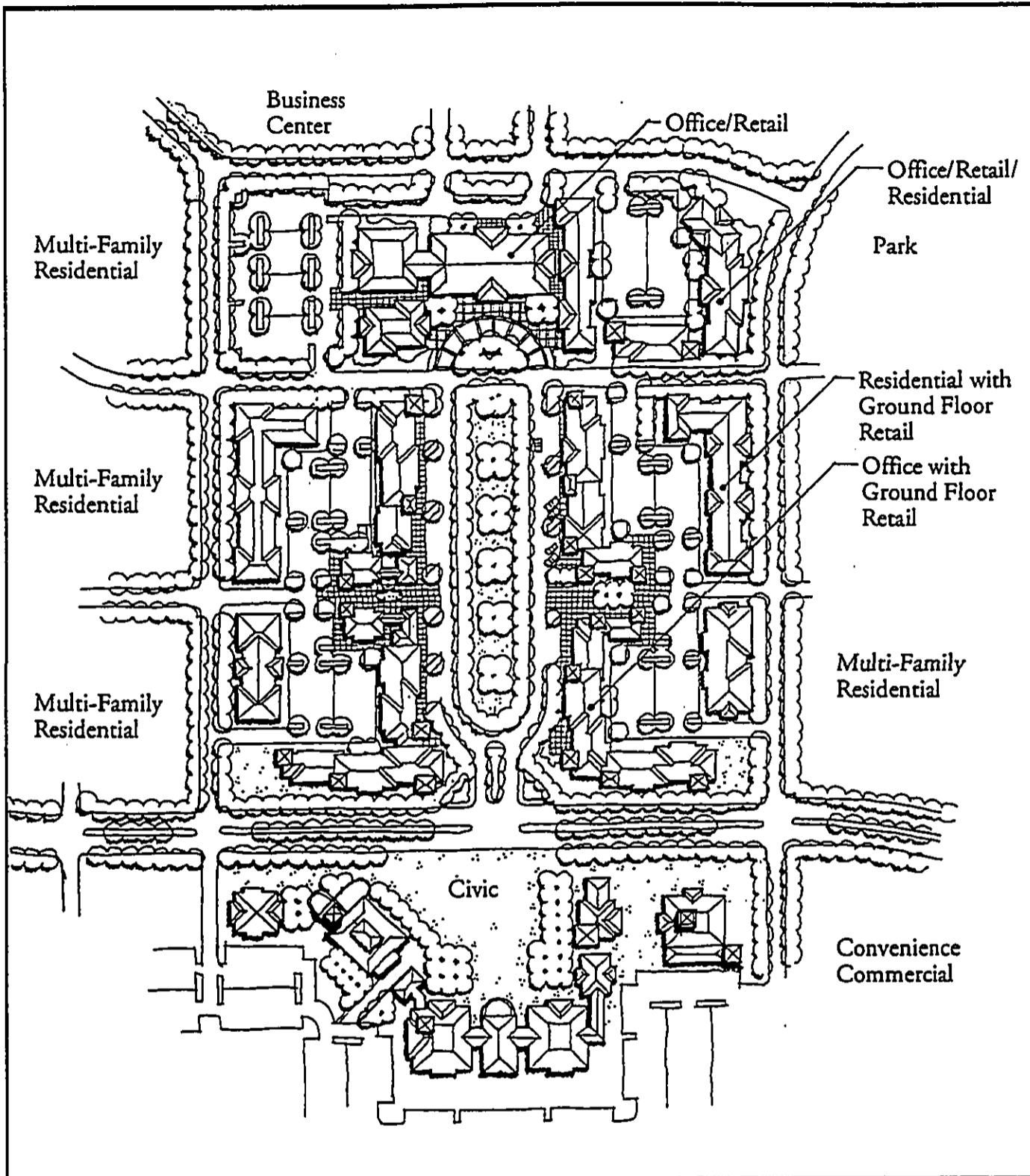
Net residential densities within the Town Center will be in the range of 30 units/acre, with residential buildings generally two to two-and-a-half stories high. Adjacent multi-family areas will have densities in the range of 15 unit/acre. The mixed use concept of the core area could provide commercial and/or residential uses along the central pedestrian mall, with elderly housing rentals or apartments on the street-side of the block. Office and retail uses could also be located within this core area. A civic center is located at the foot of the town center (discussed below).

By siting retail commercial and public facilities within walking distance (within 1/4 mile) of the higher density town center, the plan promotes the neo-traditional concepts of pedestrian circulation and a "main street" environment at the heart of the development, while reducing dependence on the automobile. The grid configuration of this core area is reminiscent of the grid layout in Wahiawa town, and creates a sense of order and balance. While the population of the surrounding residential projects are expected to provide much of the activity and demand for goods and services during weekend and evenings, the proximity to the adjacent business centers will contribute to the consumer activity during working hours.

Civic/Public Amenities. The concept plan also accommodates various civic uses, such as churches, schools, park-and-ride facilities and day care. A 9-acre civic core area is located at the base of the town center mall, and could provide a site for a private school, satellite city hall, or other public facilities. The actual activities within these areas will be determined later in the design process. The applicant is aware of plans for the redevelopment and improvement of the existing civic center in Wahiawa, and will coordinate civic uses in the Wahiawa Lands development to reinforce and complement the plans. A five-acre park-and-ride facility with a projected capacity of 500 cars is located adjacent to the Kamananui Road entrance. A smaller three-acre civic area is located east of Kamehameha Highway.

Golf Course. The plan includes an 18-hole public golf course straddling Kamehameha Highway. This course will offer affordable daily rates, and could become a major amenity for the Wahiawa community. The course will be valuable as a stormwater retention and groundwater recharge area for the development, and as a receiver for wastewater effluent generated at the site. It will also provide good residential frontage along the fairways. The golf clubhouse and driving range are located east of Kamehameha Highway. Several of the golf fairways are located along the highway in an effort to keep an open greenbelt on both sides of the major public thoroughfare and to preserve the visual resources along Kamehameha Highway.

Business Center. A 37-acre business center is located at the intersection of Kamehameha Highway and Kamananui Road. This would complement the proposed commercial/light industrial uses located east of Kamehameha Highway (discussed below) and provide additional employment opportunities for Central Oahu residents.



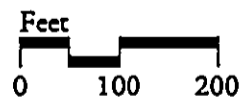
Mixed-Use Town Center

Figure: 5

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Potential business center users include health care facilities, back-office administrative operations, and outlet stores. These users are described in more detail in Section 5.6 Market Analysis.

Commercial/Light Industrial Mixed Use. A 32-acre commercial/light industrial mixed use area is planned adjacent to Kamehameha Highway/Whitmore Avenue intersection (southeast). Rather than a traditional light industrial project, this development may include front office, retail, and trade types of uses along the primary street frontages with light warehousing activities in the rear, maintaining an overall appearance of a business park rather than a light industrial park. While the users of the project are still undetermined, the preliminary market analysis indicates that there is significant demand to support this concept.

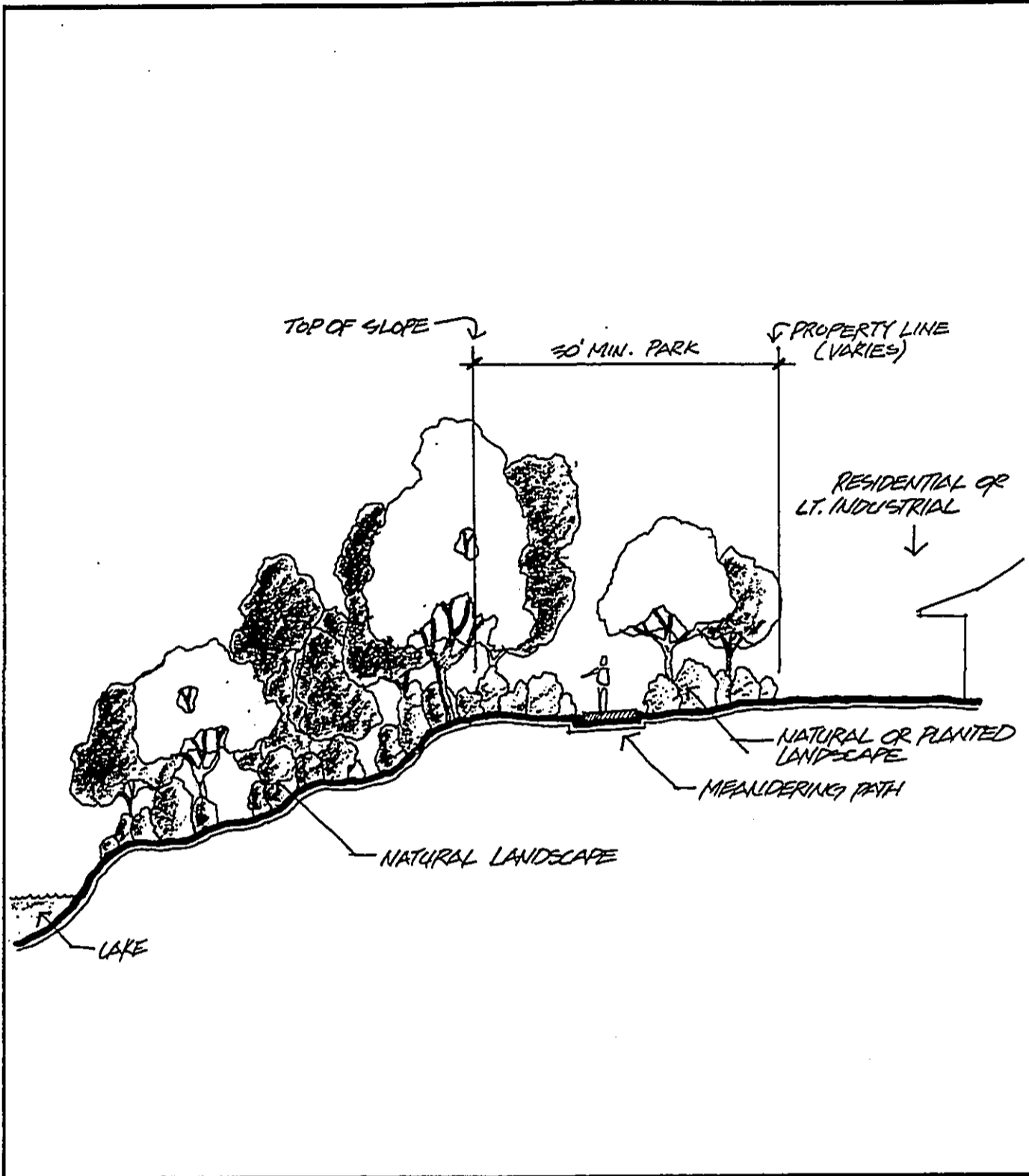
Kukaniloko. The State acquired a five-acre parcel of land from the Galbraith Trust which includes the Kukaniloko Birthing Stones (State Historic Site #50-80-04-218), and is in the process of seeking resubdivision of the existing legal lot. The concept plan provides for a total of 11 acres in a passive park setting surrounding Kukaniloko (including the State's five-acre parcel). Golf fairways buffer the site to the north and contribute to keeping a passive, open-air environment surrounding it. The applicant is keeping abreast of plans for development of the site through consultation with the State Department of Land and Natural Resources Division of State Parks, which will manage the park. (The applicant is also committed to working with the advisory entity that will recommend plans for the site, and has held several discussions with interested parties in the community.)

Parks and Open Space. The development plan includes a significant amount of parks and open space. A 10-acre neighborhood park is identified adjacent to the proposed Kukaniloko park. A 20-acre community park is planned for an area adjacent to the Town Center, within easy walking distance to the majority of the projected 8,100 project residents. The plan also designates a system of linear parks along the Wilson Reservoir and Poamoho Gulch frontages, and a possible boat launching site near the western spillway of the reservoir (DLNR Division of Aquatic Resources (DAR) has raised concerns over the safety of this location so near the spillway. The applicant is discussing this issue with DAR and local fishing organizations to assure that safety concerns are addressed). As illustrated in Figure 5A, the linear parks will provide a public edge to the reservoir and nearby gulches, and a venue for jogging, walking and bicycling. Three major public access points to the Lakefront park are identified in the concept plan, one of which would be the boat launch area near the spillway. These areas would provide vehicle parking and perhaps picnic benches, etc., for persons wishing to visit the reservoir. As noted earlier, the plan contemplates the addition of a smaller-scale of squares, greens and intensively used recreation areas within the various neighborhoods in support of the neo-traditional concepts described earlier. Many of these spaces would be linked by a system of linear parks and greenbelts.

Pineapple Museum. A six-acre "pineapple museum" exhibit is sited north of Kamananui Road across from Del Monte's existing pineapple variety garden. This could include interpretive displays, a pick-your-own pineapple garden and a retail component of interest to around-the-island sightseeing traffic.

2.6 Project Rationale

The need for affordable housing, the availability of appropriate lands and the resources of an experienced development team provide the underlying rationale for the project. According to the State Housing Finance and Development Corporation (HFDC),



Lakefront Park - Typical Section

Figure: 5A

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Not to Scale

statewide housing production lagged behind household formation by approximately 20,200 units from 1980 through 1986 (State of Hawaii, HFDC, *Overview of Affordable Housing Targets*, December 1991). The HFDC also estimated that by the year 2000, a total of 85,000 housing units would be required to keep pace with projected household expansion, of which, 64,000 would fall into the affordable category (targeted toward households earning between 80% and 120% of the area median income).

Intended Market

The proposed project is intended to appeal to a wide socio-economic spectrum including homeowners and renters, through its various housing products and components. The following section provides a review of the intended housing markets according to the developments proposed.

Single- and Multi-family Affordable Housing. The project will contribute a minimum of 60 percent of the total housing developed into the affordable housing stock. This housing product would target families with incomes within State and County income limits for affordable housing. Pricing and sales of the affordable homes will be subject to strict State and County guidelines governing resale and speculation.

Gap Group and Market-Priced Housing. Housing in this category would be targeted toward households earning greater than State and County income limits for affordable housing. Housing in this range would be available in both single- and multi-family products.

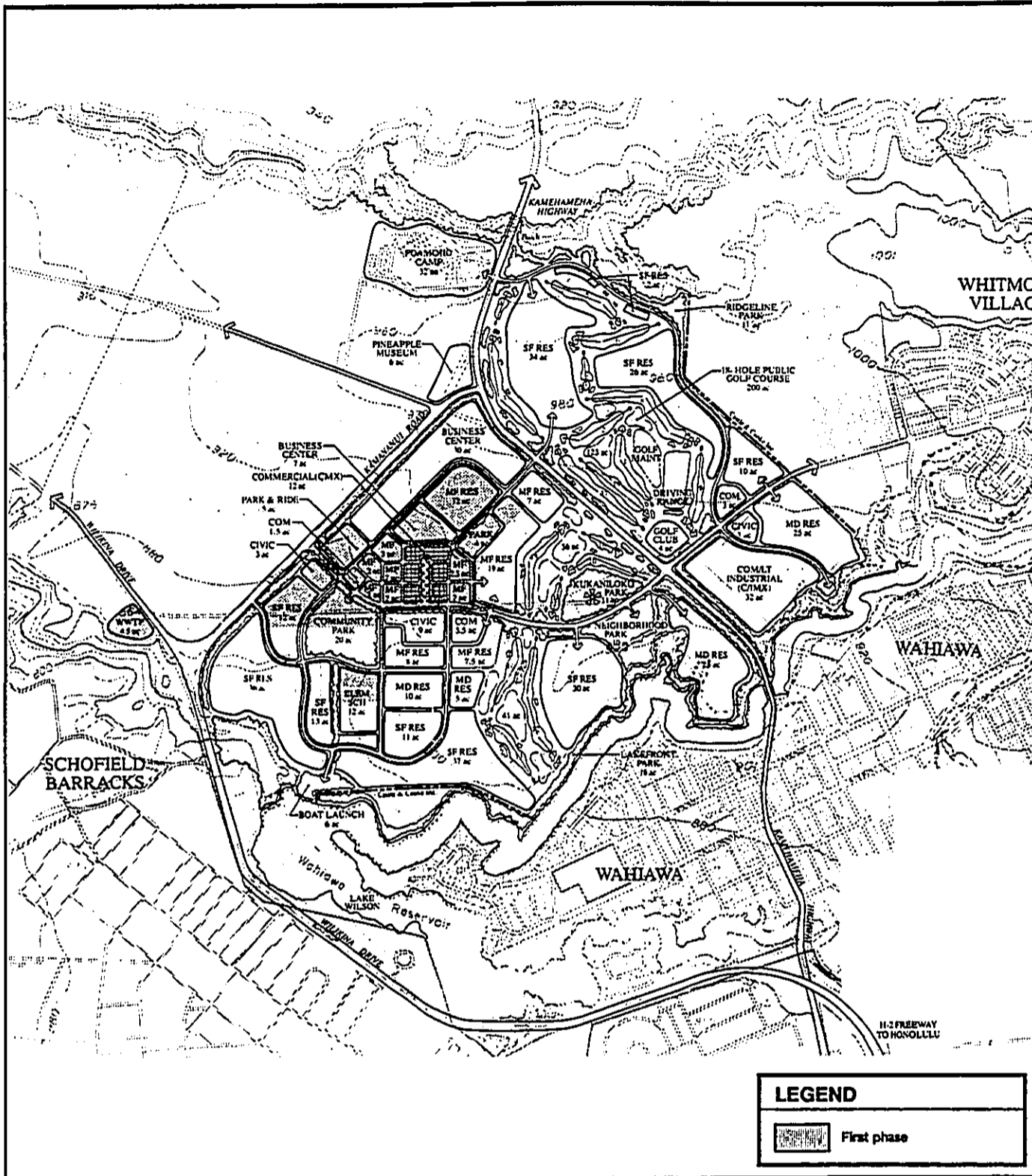
Rentals. The proposed development will include rental projects, which would be targeted toward those in the lower-end of the affordable housing range. Rental projects would include senior housing and other projects in the town core area.

2.7 Project Phasing

The entire plan will be implemented within a ten to twenty-year timeframe. Implementation of the plan will commence when final regulatory approvals have been granted. As shown in Figure 6, the 100-acre first phase of the development will involve construction of the residential component of the mixed use town center; higher density multi-family residential projects surrounding the town center; necessary civic, school and recreational facilities; limited single-family development; and the first phase of the wastewater treatment plant. About 600 residential units are planned for development in this phase. Access to the project will be from Kamananui Road. This phase is scheduled to begin construction in 1996, with occupancy starting in 1998. Full buildout of the project is anticipated by the year 2010.

An approximate timetable for the various major permits and milestones is as follows:

Development Plan Land Use Map Amendment	in progress
State Land Use District Boundary Amendment	1993
Zone Change	1994
Subdivision Application	1995
Building Permit	1995
Site Development Commences	1996
Initial Occupancies	1998

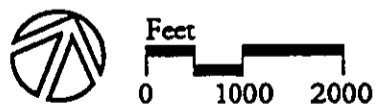


First Phase Development

Figure: 6

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2.8 Use of Public Funds or Lands

The proposed development will not use any public lands, nor will it require any new commitment of publicly supported services and facilities not compensated by increases in tax revenues.

CHAPTER 3

Relationship of the Proposed Project
to Existing Public Plans,
Policies, and Controls

CHAPTER 3	RELATIONSHIP OF PROPOSED PROJECT TO EXISTING PUBLIC PLANS, POLICIES, AND CONTROLS
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3.1 Federal

The U.S. Department of Defense operates several major military installations in the vicinity--Schofield Barracks, Naval Computer and Telecommunications Area Master Station, Eastern Pacific (NCTAMS EASTPAC), and Helemano Military Reservation.

NCTAMS EASTPAC Wahiawa is located about two miles east of the project area and serves as the administrative headquarters and communications receiver site. Planning guidelines have been established for land development around receiving antennas to prevent interference with their receiving capabilities. The Circularly Disposed Antenna Array (CDAA), operated by NCTAMS EASTPAC, requires buffer zones to ensure adequate protection from local, man-made radio noise sources. Although not enforceable on private land, electromagnetic interference protection criteria listed in a Department of Defense Directive C-3222.5 (dated April 22, 1987) note that housing developments of a density over five units per acre should be at least two miles from a CDAA. The criteria also specify light industrial land uses should be at least four miles from a CDAA.

Potential impacts to the CDAA are discussed in Section 6.10, Power and Communication. Portions of the proposed development east of Kamehameha Highway are not consistent with the Navy's CDAA minimum distance and density criteria for residential and light industrial uses. The Navy considers potential radio-frequency interference of the CDAA an unresolved issue. The applicant will continue to consult with the Navy to mitigate anticipated impacts of the proposed development on the CDAA.

The Schofield Barracks cantonment area encompasses the Central Range and MaCarthy Flats training areas. The Central Range training area, located less than two miles from the western edge of the proposal supports small arms qualifications. The Army notes that all urban development projects around any of its training lands can have the potential to adversely affect Army training adjacent to the proposals. With the exception of the proposed wastewater treatment plant site, the development area is not adjacent to any lands used by the Army for training.

3.2 State

1. Hawaii State Plan

The Hawaii State Plan (Chapter 226, Hawaii Revised Statutes, as amended) establishes a set of guidelines for the statewide, and provides the overall theme, goals, objectives, policies, and priority guidelines. The following describes the purpose of the State Plan. "...[it] shall serve as a guide for the future long-range development of the State; identify the goals, objective, policies, and priorities for the State; provide a basis for determining priorities and human resources, land , energy, water, and other resources; improve coordination of federal, state, and county plans, policies, programs, projects, and regulatory activities; and to establish a system for plan formulation and program coordination to provide for an integration of all major state and county activities" (Chapter 226-1: Findings and Purpose, HRS).

The goals, objectives, policies and guidelines of the Hawaii State Plan are, on occasion, in competition with one another. Because of this, the proposed development supports some of the goals, while is inconsistent with others. The following section analyzes the project's impacts with respect relevant State Plan goals, objectives, policies, and priority guidelines:

Section 226-5 Objective and policies for population.

Section 226-5(b)(1) *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.*

Section 226-5(b)(3) *Promote increased opportunities for Hawaii's people to pursue their socio-economic aspirations throughout the islands.*

Section 226-5(b)(7) *Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.*

Discussion: The proposed project is situated adjacent to an established regional center, and would provide additional housing, recreation, and employment opportunities for residents of Central Oahu. The development would require potable water for the new population. The applicant, together with appropriate public agencies, will seek to expand existing infrastructure systems and develop potable water sources and storage facilities to accommodate the increase in the population resulting from the project.

Section 226-7 Objectives and policies for the economy - agriculture.

Section 226-7(a)(1) Continued viability in Hawaii's sugar and pineapple industries.

Discussion: The proposed master plan was developed in consultation with the present lessee, Del Monte Fresh Produce (Hawaii), Inc., and involves the removal of about 11 percent (800 acres) of their total leased lands (7,480 acres) or 20 percent of their total lands available for planting (4,200 acres). The applicant has been working with the lessee to identify replacement lands and to devise an acceptable phasing schedule (discussed in Chapter 2).

Although the project will result in the loss of about 800 acres of prime agricultural lands over a five- to seven-year phase-out period, the applicant intends to make a long-term commitment of 1,300 acres to the north of Kamananui Road to agriculture. Hawaiian Trust Company, Ltd. has worked very closely with Del Monte to come up with a plan that would minimize impact to the plantation and its workers. As noted in a letter from the General Manager of Del Monte's Hawaii operations (attached in Appendix J), Del Monte feels that the commitments and agreements it has made with Hawaiian Trust will allow it to remain a significant force in the Hawaii pineapple industry for years to come. He also notes that they have already found 400 acres of replacement land in the Kunia area.

Regarding plantation agriculture, the project would have an uncertain impact. If sufficient replacement lands are not available, or if they come available too late, Del Monte may be forced to close its Oahu plantation. Furthermore, if the replacement lands for Del Monte are made available at the expense of Oahu Sugar Company (OSCo), then the resulting loss of acreage by OSCo would weaken this plantation. The survival of OSCo would depend largely on its success in renewing all of its major

leases with terms sufficiently favorable to allow profitable operations, and on the future level of U.S. sugar prices.

Section 226-7(a)(2) *Continued growth and development of diversified agriculture throughout the State.*

Discussion: Regarding diversified agriculture, the project would (1) not adversely affect any existing diversified agriculture activities; (2) not affect the amount of land available for diversified agriculture; and (3) not limit the growth of diversified agriculture since, in other parts of the State, far more agricultural land has been released from plantation agriculture than has been absorbed by other activities.

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

Section 226-11(b)(9) *Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.*

Discussion: The plan proposes a public access point to the north fork of the Wahiawa Reservoir and a linear park along the Wahiawa Reservoir frontage, now only accessible through unpaved, private agricultural roads. The plan also proposes an additional public boat launch facility to augment the existing facility at the Wahiawa Fresh Water State Park.

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

Section 226-12(b)(4) *Protect those special areas, structures and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.*

Discussion: The Department of Land and Natural Resources, Division of State Parks recently acquired a five-acre parcel containing the Kukaniloko Birth Stones from the Galbraith Trust Estate. The State Parks Division considers the five-acre buffer inadequate for the site, which is one of the most significant historical sites on Oahu. The plan proposes to contribute an additional six acres of passive park space to the existing state park to create a larger area for buffer, parking, and interpretive treatment of the site. The proposed plan and elements surrounding Kukaniloko have been reviewed by the State Parks Division and Historic Sites Division and found to provide appropriate treatment of the site.

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

Section 226-15(b)(1) *Encourage the adequate development of sewerage facilities that complement planned growth.*

Section 226-15(b)(2) *Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.*

Discussion: The City's municipal wastewater treatment plant servicing the Wahiawa area will not be available to serve project needs (due to capacity limitations and water quality issues relating to its present level of treatment). Based on comments received from the Honolulu Department of Public Works, the project civil engineers, Sam O. Hirota, Inc., recommended a 4.61 million gallon/day tertiary treatment plant for the development to treat the estimated 1.5 mgd average daily flow at ultimate buildout.

This wastewater treatment plant has been sited on 4.5 acres of land owned by the Galbraith Trust Estate on the west side of the intersection of Wilikina Drive and Kamananui Road (TMK: 7-1-01: por.1).

Section 226-16 Objectives and policies for facility systems--water.

Section 226-16(b)(3) *Reclaim and encourage the productive use of runoff water and wastewater discharges.*

Discussion: The proposed golf course would include areas for stormwater detention. A portion of the tertiary-treated effluent would be used to irrigate the proposed golf course and other public landscaped areas. The remaining effluent would be available to surrounding agricultural operators for irrigation purposes or discharged into Wahiawa Reservoir, subject to government permitting requirements.

Section 226-18 Objectives and policies for facility systems--energy/telecommunications.

Section 226-18(a)(2) *Increased energy self-sufficiency.*

Section 226-18(c)(3) *Promote prudent use of power and fuel supplies including:*
(A) *Development of cost-effective demand-side management programs;*
(B) *Education; and*
(C) *Adoption of energy-efficient practices and technologies.*

Discussion: The design and construction of the proposed facilities will incorporate energy-saving designs and devices.

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

Section 226-19(a)(1) *Greater opportunities for Hawaii's people to secure reasonably priced, safe, sanitary, livable homes located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals.*

Section 226-19(a)(2) *The orderly development of residential areas sensitive to community needs and other land uses.*

Section 226-19(b)(3) *Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.*

Discussion: The primary objective of the proposed development is the provision of affordable housing. These residences would be, for the most part, fee-simple, but also include rental projects for the elderly and other special need groups. By including a higher-density town center, the plan provides a wide range of housing products, from lower-density single-family units around the golf course and southwest sectors of the development to multi-family units within convenient walking distance of retail, recreational and civic activities.

The applicant has made a concerted effort to obtain input on concerns and needs from Wahiawa residents through community advisory committee meetings, presentations to local civic and interest groups, and outreach to the community at large. The applicant intends to continue this process of reciprocal communication with both the public and government agencies in refining the details of the plan.

Section 226-103 Economic priority guidelines.

Section 226-103(c)(1) *"Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries."*

Section 226-103(d)(1) *Identify, conserve and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural districts.*

Section 226-103(d)(10) *Support the continuation of land currently in use for diversified agriculture.*

Discussion: The project would remove 860 acres now cultivated in pineapple by Del Monte Fresh Produce (Hawaii), Inc. The impact of the project on Del Monte would depend upon: (1) whether or not replacement lands become available; (2) the availability of water to irrigate these lands; and (3) the timing with respect to the crop cycle, the dates Del Monte must vacate the affected Galbraith fields, and the dates replacement lands would be available. The impacts of the project to Del Monte and indirect impacts to other pineapple and sugar plantations are discussed in Chapter 4.

As discussed in the agricultural impact report (Appendix J), with regard to the supply of land in the State as a whole, an enormous and growing supply of prime agricultural land is available for alternative uses. Since 1968, about 170,000 acres of Hawaii's prime agricultural land have been freed from sugar and pineapple production. Acreage uncommitted to urban, diversified-agriculture, and aquaculture uses amounts to about 80,000 acres. This land is available for diversified agriculture and aquaculture uses. The State Department of Agriculture projected additional land requirements to accommodate the growth of diversified agriculture to the year 2010 would amount to approximately 42,000 acres (Decision Analysts Hawaii, Inc., 1992, page 50). Therefore, the project would not reduce the lands available for diversified agriculture.

Section 226-103(f)(1) *Encourage the development, demonstration, and commercialization of renewable energy sources.*

Section 226-103(f)(2) *Initiate, maintain, and improve energy conservation programs aimed at reducing energy waste and increasing public awareness of the need to conserve energy.*

Discussion: The project will incorporate, as much as feasible, energy-saving designs and devices.

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

Section 226-104(b)(2) *Make available marginal or non-essential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.*

Discussion: The project will be constructed on lands classified as "B", or prime agricultural land (A indicates highest productivity, E lowest productivity). The Agricultural Lands of Importance to the State of Hawaii maps identify most of the property as "prime if irrigated."

2. State Functional Plans

The Hawaii State Plan directs the appropriate State agencies to prepare functional plans for their respective program areas, including: agriculture, transportation, conservation lands, housing, tourism, historic preservation, energy, recreation, education, higher education and health. The State Functional Plans serve as the primary implementing vehicle for the goals, objectives and policies of the Hawaii State Plan.

The plans set forth "...the policies, statewide guidelines, and priorities within a specific field of activity, when such activity or program is proposed, administered, or funded by an agency of the State" (Section 226-2 [10] Hawaii Revised Statutes). Each functional plan contains objectives to be achieved and policies to be pursued within the specified areas. "...[S]uch policies shall address major programs and the location of major facilities" (Section 226-57 (b) HRS).

The State Functional Plans have been adopted by the Hawaii State Legislature. The State Plan mandates that these plans "...shall be taken into consideration in amending the county general plans (Section 226-52 (a)(3) HRS)." The following section describes the proposed project with respect to the applicable functional plans.

State Agriculture Functional Plan

Preparation of the Agriculture Functional Plan was coordinated by the Department of Agriculture. The Plan identifies land and water as one of four issue areas.

Issue Area: Land and Water

Implementing Action H(2)(c): *Administer land use district boundary amendments, permitted land uses, infrastructure standards, and other planning and regulatory functions on important agricultural lands and lands in agricultural use, so as to ensure the availability of agriculturally suitable lands and promote diversified agriculture.*

Discussion: As discussed above in Section 226-103 Economic priority guidelines, about 170,000 acres of Hawaii's prime agricultural land have been freed from plantation agriculture production since 1968. About 80,000 acres is uncommitted and most of this is fallow, in pasture, or in some other low-value land-holding operation. With or without the project, this land would be available for diversified agriculture production.

State Housing Functional Plan

The Housing Finance and Development Corporation coordinated the preparation of this functional plan. The Plan includes homeownership, rental housing, and rental housing for the elderly and other special need groups as issue areas.

Issue Area: Homeownership

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

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

Discussion: The project, which is being proposed by a private landowner, would provide affordable for-sale housing units which meeting State and County guidelines and requirements for pricing and percentage of affordable homes to market homes.

The project also proposes affordable rental units which could include elderly and special needs housing.

Issue Area: Rental Housing

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

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

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

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

Discussion: In addition to providing for-sale dwellings, the project includes a rental housing component, which is expected to be priced in the affordable range. The exact number and location of these rental projects would be determined in coordination with the project developer, Schuler Homes, Inc., as the planning and design progress. Rental housing within the town center area is anticipated to include elderly and special needs housing convenient to commercial and recreational facilities.

As discussed in Section 5.3 Housing, the project could theoretically house the regional workforce associated with its operations and could also provide housing covering much of the new demand that the workforce could generate.

State Recreation Functional Plan

Issue Area II. Mauka, Urban and Other Recreation Opportunities

Policy II-A(5): *Plan and develop facilities and programs to increase freshwater recreational fishing opportunities.*

Issue Area IV. Resource Conservation and Management

Policy IV-B(2): *Protect, preserve, restore, and enhance recreational fishery resources.*

Discussion: After discussion with the Department of Land and Natural Resources (DLNR) Division of Aquatic Resources (Personal communication, William Devick, June 18, 1992), the applicant learned that the present park and boat launch ramp facility at the Wahiawa Fresh Water State Park cannot accommodate the demand, particularly in the summer months. There is also a need for an additional boat launch ramp in the western part of the reservoir, where the water level is consistently higher, and additional public access for shore fishing. The proposed plan includes an additional public boat launch from the north bank of the reservoir, and a public park and access point. According to comments on the EIS Preparation Notice by the Division of Aquatic Resources, this boat launch facility may be in an inappropriate location. The applicant will continue to consult with the Aquatic Resources Division to site the boat launch ramp in an appropriate location.

State Transportation Functional Plan

Issue Area I. Congestion

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

Implementing Action I.B.1.c.: *Promote the development of homes near jobs.*

Objective I.C.: *Management of existing transportation systems through a program of transportation systems management (TSM).*

Discussion: The project would provide a range of employment opportunities in the business center, commercial areas, commercial/light industrial center, schools, golf course, and civic areas. The project would employ a program of transportation systems management in order to mitigate adverse impacts to existing transportation facilities.

3. State Land Use Law

All lands in the State have been classified in one of four land use districts (Urban, Rural, Agricultural, and Conservation) by the State Land Use Commission, pursuant to Chapter 205, HRS. Almost the entire area of application is in the Agricultural District, while a small section near the edge of Wahiawa Reservoir are in the Conservation District (see Figure 7). Urban Districts lie to the east and south of the site, while the Agriculture District lies to the north and west. The applicant intends to submit a petition to the Land Use Commission seeking the reclassification of the agricultural lands to the Urban District. The applicant does not intend to reclassify the Conservation District lands that are in the proposed project area. A boundary interpretation was conducted for the property which indicated that the Conservation District boundary along the southern part of the project area coincides with the top of the Wahiawa Reservoir bank. Development of the conservation lands would be limited to pedestrian trails and a proposed boat launch area near the reservoir spillway. These activities would be regulated by DLNR under the Conservation District Use Permit process.

The State Land Use Commission Rules, adopted October 1986, require that an application for a boundary amendment show that it is "reasonable, not violative of Section 205-2[HRS] and consistent with the policies and criteria established pursuant to Sections 205-16, 205-17 and 205A-2, HRS" (Hawaii Land Use Commission Rules, Section 15-15-77). In reviewing petitions for reclassification of district boundaries, the Commission must specifically consider four criteria. The criteria are presented below, in italics, followed by a brief discussion of each criterion.

(1) The extent to which the proposed reclassification conforms to the applicable goals, objectives, and policies of the Hawaii State Plan and relates to the applicable priority guidelines of the Hawaii State Plan and the adopted functional plans;"

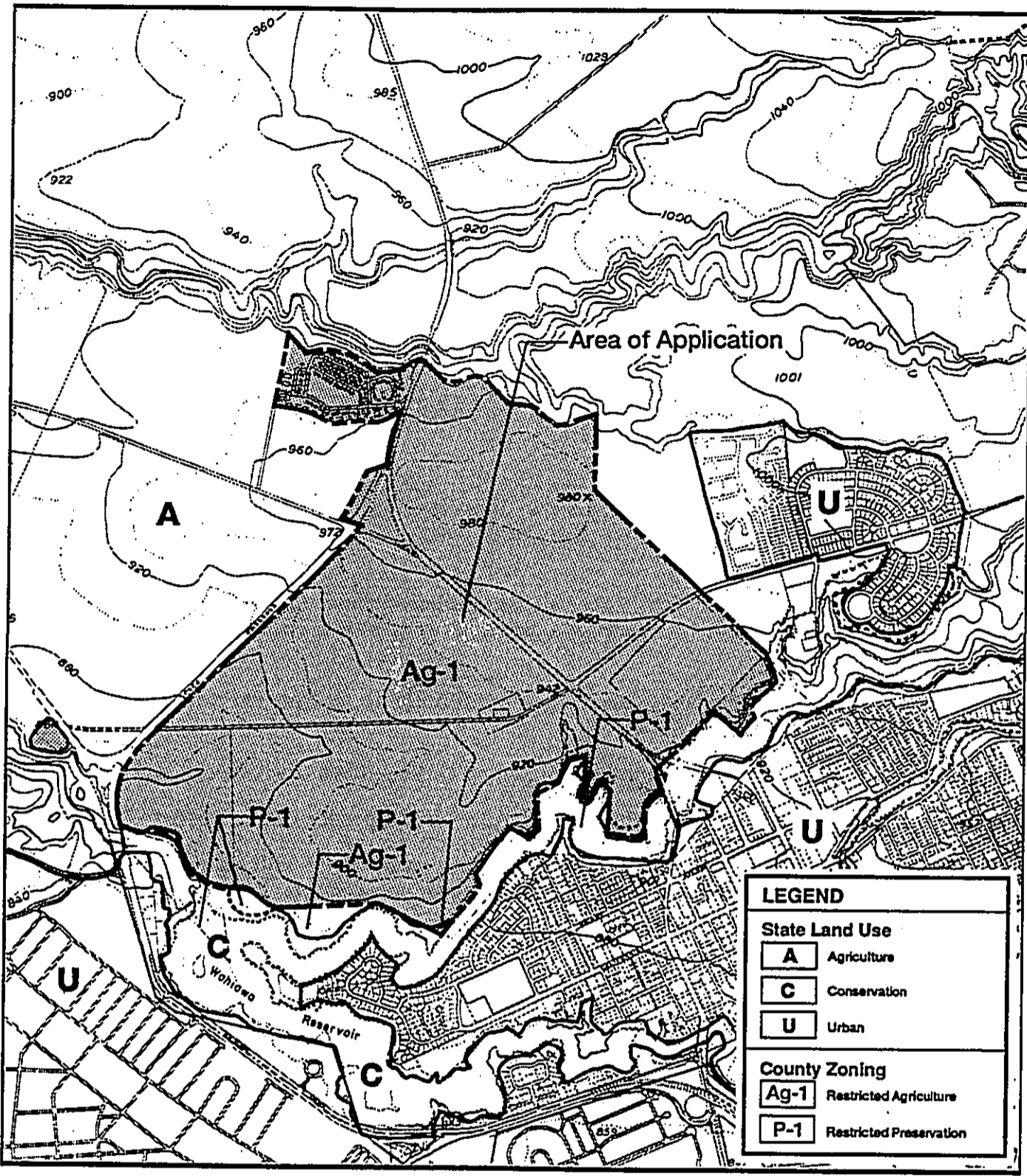
Discussion: The proposed project conforms to most applicable goals, objectives, and policies and the guidelines of the State Functional Plans. Because of their competing nature, the project is not consistent with all policy areas.

(2) The extent to which the proposed reclassification conforms to the applicable district standards."

Discussion: The applicable standards for the Urban District are found in Section 15-15-18 of the Land Use Commission Rules. These are reprinted and discussed below.

In determining the boundaries for the Urban District, the following standards would be used:

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



State Land Use & County Zoning Figure: 7

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- (2) It shall take into consideration the following specific factors:
- A. Proximity to centers of trading and employment facilities except where the development would generate new centers of trading and employment;
 - B. Substantiation of economic feasibility by the petitioner;
 - C. Proximity to basic services such as sewers, water, sanitation, schools, parks, and police and fire protection; and
 - D. Sufficient reserve areas for urban growth in appropriate locations based on a ten-year projection;
- (3) It shall include lands with satisfactory topography and drainage and reasonably free from the danger of floods, tsunami and unstable soil conditions and other adverse environmental effects;
- (4) In determining urban growth for the next ten years, or in amending the boundary, lands contiguous with existing urban areas shall be given more consideration than non-contiguous lands, and particularly when indicated for future urban use on State or County General Plans;
- (5) It may include lands in appropriate locations for new urban concentrations and shall give consideration to areas of urban growth as shown on the State and County General Plans;
- (6) It may include lands which do not conform to the standards in paragraphs (1) to (5):
- A. When surrounded or adjacent to existing urban development; and
 - B. Only when such lands represent a minor portion of this District;
- (7) It shall not include lands, the urbanization of which will contribute towards scattered spot urban development, necessitating unreasonable investment in public infrastructure or support services;
- (8) It may include lands with a general slope of twenty percent or more which do not provide open space amenities or scenic values if the Commission finds that such lands are desirable and suitable for urban purposes and that official design and construction controls are adequate to protect the public's health, welfare and safety, and the public's interests in the aesthetic quality of the landscape.

Discussion: The proposed Wahiawa Lands development is planned as a logical, complementary extension of Wahiawa town, and would serve to link the existing Whitmore Village community to the greater Wahiawa community. Public utilities are located near the project area, and would be extended to serve the new community. Revenues from property, income and excise taxes are expected to more than offset expenses associated with expanded public services to meet the requirements of the new development. The project will develop a treatment plant to treat wastewater generated by the project. This plant would meet all applicable Department of Health and Department of Public Works requirements.

The proposed development would provide a variety of employment opportunities for the Central Oahu region, and generate demand for goods and services for existing Wahiawa businesses.

The project site is free from natural hazards such as flooding, unstable soil conditions and has a topography well-suited for residential development. It is adjacent to the urbanized areas of Wahiawa and Schofield Barracks, and in close proximity to Whitmore Village and Helemano Military Reservation.

The proposed development implements many of the objectives and policies of the County General Plan. The project's estimated population would contribute to the General Plan 2010 population guideline for Central Oahu being exceeded. However, this inconsistency should be evaluated in light of the project's support of other General Plan guidelines, particularly, the increased stock of affordable housing. The applicant's joint venture development partner, Schuler Homes, Inc., has a proven record of providing housing at affordable prices to the residents of the state.

The applicable standards for the Agricultural District are found in Section 15-15-19 of the Land Use Commission Rules. These are reprinted and discussed below.

In determining the boundaries for the Agricultural District, the following standards apply:

(4) Lands in intensive agricultural use for two years prior to date of filing of a petition or lands with a high capacity for intensive agricultural use shall not be taken out of this district unless the commission finds either that the action:

(A) Will not substantially impair actual or potential agricultural production in the vicinity of the lands or in the county or state; or

(B) Is reasonably necessary for urban growth.

Discussion: The project will not significantly impact agricultural production in the either in the vicinity of the lands or in the county in the short term. As discussed in Section 5.7 Agricultural Impacts, the project may have an indirect impact on the plantation pineapple and sugar cane production on Oahu in the long term. However, impacts to sugar production is more dependent on international economic conditions. The current lessee, Del Monte Fresh Produce (Hawaii), Inc., has secured 400 acres of replacement lands and is confident that additional lands will be obtained consistent with the phase out schedule formulated with Hawaiian Trust (see Appendix J). Hawaiian Trust intends to continue leasing the remaining 1,300 acres of Galbraith Trust lands north of Kamananui Road to Del Monte.

Regarding the concern about the future integrity of prime agricultural lands in the surrounding areas, it should be noted that the Hawaii Right to Farm Act (HRS 165) limits the circumstances under which farming operations may be deemed a nuisance and therefore, will minimize the premature removal of adjacent lands from agricultural use.

The area of application is very well suited for urban development as it is adjacent to an existing urban community, which serves as the regional center for Central Oahu. The proposed project is not expected to adversely impact the City's policy to give development priority to the Primary Urban Center or to creating a second urban center in Ewa. Demand for the project's residential components will be drawn primarily from

existing demand in the Central Oahu area, rather than from the PUC or Ewa. This is discussed in detail in Section 5.6 Market Analysis.

(3) *"Impact on Areas of Statewide Concern."*

A. Preservation or maintenance of important natural systems or habitats.

Discussion: There are no endangered species within the area of application. The project would not have an adverse impact on the waterbird habitat at Wahiawa Reservoir.

B. Maintenance of valued cultural, historical, or natural resources.

Discussion: There are no historic or archaeological sites located within the development area. Two archaeological sites are in the vicinity of the project site, but would not be developed. The Kukaniloko Birth Stones State Park site (see Chapter 4.10) would be buffered from the proposed development by additional park area, golf fairways, and low-density residential development.

C. Maintenance of other natural resources relevant to Hawaii's economy, including, but not limited to, agricultural resources.

Discussion: Although prime agricultural land would be lost, this acreage is not essential to maintain the short-term viability of the pineapple industry, the long-term viability of the sugar industry, or diversified agriculture.

D. Commitment of state funds and resources.

Discussion: As a private developer, the joint venture development partnership expects to bear the costs of the development. No federal, state or county funds are being sought. Major infrastructure improvements such as the water system, wastewater treatment plant, internal roadways, and some improvements to existing roadways are examples of improvements to be funded by the applicant.

E. Provision for employment opportunities and economic development.

Discussion: The proposed development is expected to contribute about 3,400 direct operations employment jobs when the project is completed in 2010. These jobs would be in a variety of white- and blue-collar fields.

F. Provision for housing opportunities for all income groups, particularly the low, low-moderate, and gap groups.

Discussion: A minimum of 60 percent of the project's residential component would be priced in the affordable range, according to State and County guidelines. The developer is also committed to provide rental housing for seniors or other special needs groups.

(4) *In establishing the boundaries of the districts in each County, the Commission shall give consideration to the General Plan of the County in which the land is located.*

Discussion: The Honolulu General Plan (discussed in Section 3.3 below) provides a general population distribution for the year 2010 for each of the development plan areas on Oahu. The development of the Wahiawa Lands project

would exceed the year 2010 population distribution guidelines of the General Plan, when it is completely occupied. However, it would implement a number of other General Plan objectives and policies.

Land Use Commission Rules allow for the reclassification of larger tracts of land under certain conditions described below.

15-15-78 Incremental Districting. (a) If it appears to the commission that full development of the subject property cannot substantially be completed within five years after the date of the final county zoning approval and that the incremental development plan submitted by the petitioner can be substantially completed, and if the commission is satisfied that all other pertinent criteria for redistricting the premises or part thereof to urban are present, then the commission may:

- (1) Grant the petitioner's request to reclassify the entire property to urban; or
- (2) Redistrict to urban only that portion of the premises which the petitioner plans to develop first and upon which it appears that total development can substantially be completed within five years after the date of the final county zoning.

A State Land Use District Boundary Amendment will be sought to transfer the area of application presently in the Agricultural District to the Urban District, pending a Conservation District Boundary interpretation of the property along Wahiawa Reservoir.

A Conservation District Use Application from the State Department of Land and Natural Resources may be necessary for development of the proposed linear park along the north bank of the Wahiawa Reservoir, depending on the results of the Boundary interpretation.

4. Environmental Impact Statements (Chapter 343, HRS)

Section 343-5 (a)(6), HRS notes that the provisions of Chapter 343 apply to "any amendment to existing county general plans where the amendment would result in designations other than agriculture, conservation, or preservation..."

A State Attorney General opinion (Opinion No. 85-30) has broadened the scope of the definition of county general plans to include "...non-county initiated actions which propose amendment or change to a county's planning documents, however denominated, as development plans or otherwise, and which would result in a designation other than agriculture, conservation or preservation."

The action requested by this application would result in an amendment to the Central Oahu DP Land Use Map from the Agricultural designation to the Residential, Low-Density Apartment, Parks and Recreation, Commercial Emphasis Mixed Use, Commercial, and Public and Quasi-Public designations.

An application for Development Plan Amendment and Environmental Assessment for the proposed development was submitted to the City's Department of General Planning (DGP) on September 15, 1992. The proposed action was subject to the provisions of Chapter 343, Hawaii Revised Statutes, Environmental Impact Statements, because the proposed amendment to the Central Oahu Development Plan would result in a designation other than agriculture or conservation.

By letter dated October 13, 1992, DGP notified the Office of Environmental Quality Control (OEQC) that it had determined that an Environmental Impact Statement (EIS) was required for the proposed subject project. Notice of this determination was published in the November 8, 1992 *OEQC Bulletin*. The publication of this notice of determination began a 30-day public review period which ended on December 8, 1992.

Notice of the draft EIS was published in the February 8, 1993 *OEQC Bulletin*. This began a 45-day public comment period which ended on March 25, 1993.

A list of agencies, organizations and individuals consulted during preparation of the draft EIS is found in Chapter 10 of this document. Chapter 11 contains reproductions of written comments on the EIS Preparation Notice received by January 15, 1993 and the applicant's responses to the comments. Chapter 12 contains reproductions of comments received during the pre-assessment consultation. Chapter 14 contains reproductions of written comments on the draft EIS and applicant responses to those comments.

5. Coastal Zone Management Act

The objectives and policies of the Hawaii Coastal Zone Management (CZM) Program are included in the Shoreline Protection Act of 1975 (Chapter 205A-2, Hawaii Revised Statutes, Part I). All of Oahu lies within the CZM area except for the forest reserve areas. Relevant CZM objectives and policies pertaining to the proposed project are as follows:

"(b)(2)(A) 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."

"(c)(2)(B) Maximize information retention through preservation of remains and artifacts or salvage operations."

Discussion: The concept plan proposes an additional six acres of park space around the Division of State Parks' five-acre Kukaniloko Birthstones State Monument site, which will assist with the preservation of its cultural and historical setting. The DLNR State Historic Preservation Division has stated that the low-rise, low-density development being proposed for the lands adjacent to the proposed 11-acre park (golf course, community park, and single-family residences) are appropriate for the area surrounding this historic site. The applicant has and will continue to consult with interested members of the community regarding the preservation of the site and appropriate surrounding uses, and will consult with the Division of State Parks in coordinating plans for the proposed park.

"(b)(3)(A) Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources."

Discussion: Development of the proposed project will alter the visual resources along Whitmore Avenue and Kamehameha Highway as open space diminishes and is replaced by patterns typical of residential developments.

A significant amount of open space will be preserved in the forms of a golf course and various parks. The development will provide access to the northern edge of Wahiawa Reservoir and Kaukonahua Stream and to the ridge above Poamoho Gulch through public parks and open space. The siting of golf fairways along Kamehameha Highway

will contribute to an open greenbelt along this corridor. The major cross-axis of the town center is oriented towards Mount Kaala, Kolekole Pass, and major topographic features of the Waianae Mountain Range. Structure heights within the project will be in the one- to two-story range with possible three-story buildings located within the town center. All development will be well setback from the major public thoroughfares. The setbacks will be heavily landscaped and/or will consist of golf course fairways.

"(c)(4)(D) Promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine water ecosystems and prohibit land and water uses which violate state water quality standards."

Discussion: Grading and drainage for the development will have to comply with the Department of Health Administrative Rules, and City and County ordinances and standards. Stormwater runoff will be detained in basins and construction activity runoff would be subject to a National Pollutant Discharge Elimination System (NPDES) permit from the Department of Health. The present agricultural use is not subject to a permitting system regulating the quality of the stormwater runoff discharged into the reservoir. Section 4.4 Groundwater Resources includes a comparison of water quality impacts of the project with present land use management. In summary, pesticide and nutrient transport due to erosion and runoff will be reduced from the present situation by the replacement of the agricultural operations by the turfgrass system (golf course).

Mitigation measures for potential adverse water quality impacts due to the proposed urban development are discussed in Section 4.4 Groundwater Resources. These include strict environmental guidelines for the light industrial areas, detention and settling ponds within the golf course, and vegetative linear parks along the development's boundary with the adjacent gulches to provide additional absorptive surfaces for water that will increase soil stability and infiltration. Water quality monitoring will be considered as a further measure to minimize potential negative impacts of the project.

"(c)(6)(D) Prevent coastal flooding from inland projects."

Discussion: According to the civil engineering report prepared by the project civil engineer, Sam O. Hirota, Inc., and included as Appendix L, the total runoff from the proposed development is estimated to be 3,136 cubic feet per second (cfs) or about nine percent more than the 2,890 cfs 10-year storm runoff from the undeveloped site. The proposed development will result in an increase of 246 cfs for a 10-year storm and not more than 370 cfs for a 100-year storm. Some of this flow will go into Poamoho Stream. The 100-year storm produces an estimated 17,900 cfs in Kaukonahua Stream. According to the civil engineer, the quantity of runoff from the proposed development is insignificant compared to the flow in Kaukonahua Stream.

3.3 City

1. General Plan

The General Plan for the City and County of Honolulu (adopted 1977) was amended by the City Council in 1987. The Plan is statement of the long-range social, economic, environmental and design objectives for the general welfare and prosperity of the people of Oahu. The Plan is also a statement of broad policies which facilitate the attainment of the objectives of the plan. This section analyzes the impacts of the project with respect to relevant General Plan objectives, policies and programs.

I. Population

Objective C, Policy 2 *Encourage development within the secondary urban center at Kapolei and the Ewa and Central Oahu urban-fringe areas to relieve developmental pressures in the remaining urban-fringe and rural areas and to meet housing needs not readily provided in the primary urban center.*

Objective C, Policy 3 *Manage physical growth and development in the urban-fringe and rural areas so that:*

- a. An undesirable spreading of development is prevented; and*
- b. Their population densities are consistent with the character of development and environmental qualities desired for such areas.*

Objective C, Policy 4 indicates a year 2010 distribution of Oahu's residential population which provides for 14.9 percent to 16.5 percent of the year 2010 islandwide population to be located in the Central Oahu DP area.

Discussion: Based on M-K population projections from the Department of Business, Economic Development and Tourism, the guideline for year 2010 Central Oahu is 148,900 - 164,900 people. According to the Fiscal Year 1992 Development Plan Status Review (DPSR), the population capacity for the Central Oahu DP area is 164,416. Population projections for the proposed Wahiawa Lands development estimate the 2010 residential population at 8,121. The total Central Oahu population would then be 172,537, or 4.94 percent above the population capacity or 4.63 percent above the General Plan population guideline for Central Oahu for 2010.

Although not consistent with the population distribution guideline for the Central Oahu DP area, the proposed development can be considered consistent, in some respects, with Policy 3 (see above) in that:

- The project area lies within an existing "urban-fringe" area adjacent to Wahiawa, one of Oahu's oldest towns. A fundamental concept of the plan is to complement and reinforce Wahiawa as Central Oahu's primary commercial and civic area.
- The density of the development will be less than that now found in the adjacent community.
- The project would provide much new (primarily affordable) housing, for Oahu residents that would meet housing needs not readily being provided in the Primary Urban Center.
- Both the City and State have recently recognized the dire need for new affordable homes for Oahu families. Both have gone so far as to permit waivers and/or exemptions from public policies (GP population distribution policies, DP, zoning, subdivision, etc.) to fast-track affordable housing projects in recognition of the great need for these homes (HRS 201-E process). The applicant believes the precedent to evaluate the project from all ten GP policies rather than taking a short view of population policies has already been established.
- The joint development partner, Schuler Homes, Inc., has established an excellent reputation on Oahu and elsewhere within the State for its expertise in the

production of quality affordable homes. The joint venture partners are committed to developing a major affordable community without major public subsidies and with minimal impacts to the environment.

Government projections and policies governing land use are currently under discussion, and could be altered as follows:

- The State's M-K Series Projections, on which the City's population projections and guidelines depend, will be reviewed and replaced on the basis of 1990 Census data.
- The M-K Series assumption that economic growth will shift nearly entirely from Oahu to other islands in the coming years may be questioned in light of low occupancies at Neighbor Island resorts. Consequently, population growth could be more concentrated on Oahu than was projected.

It should be noted that the projections are fluid and by their nature should be treated in a *probabalistic*, not *deterministic* manner.

The General Plan recognizes that conflicts may arise regarding "the interpretation or prioritization of any of the objectives and policies of the General Plan." The General Plan provides for resolution of these conflicts by the City Council. The General Plan does not prioritize among the overall objectives and policies it sets for the City. However, as noted in the DPSR, in application, the population distribution policy of the General Plan (Population Objective C, Policy 4) has become predominate among the General Plan policies which guide residential development. The population distribution percentages have been interpreted as limits rather policy guidelines in evaluating proposed amendments to the Development Plans which involve residential development. As a result, other key policies relating to affordable housing have been subordinated to the set of population ranges established for each Development Plan area.

As stated in the General Plan, "all policy statements and the '% of total' figures in the population distribution table contained in this Plan are intended to serve as policy guidelines, as opposed to rigid requirements, in the preparation and amendment of Development Plans and agency plans, programs and projects" (General Plan, page 12) Therefore, the applicant contends that despite inconsistency with the General Plan's population distribution table guidelines, because the proposed development supports other objectives and policies, especially housing policies, no amendment to the General Plan population distribution guidelines is warranted.

II. Economic Activity

Objective C *To maintain the viability of agriculture on Oahu.*

Discussion: The development would be constructed on 860 acres of prime agricultural land. The impact of the project on Del Monte would depend on (1) whether or not replacement lands become available; (2) the availability of water to irrigate these lands; and (3) the timing with respect to the crop cycle, the dates Del Monte must vacate the affected Galbraith fields, and the dates replacement lands would be available.

A reduction in the amount of land available to Del Monte could impact the company if replacement lands could not be secured. If replacement lands were provided by lands now farmed by Oahu Sugar Company, this could, in turn, have an indirect impact on the viability of its operations. However, the long-term viability of the sugar industry in

Hawaii is dependent on the world sugar market, rather than the preservation of the current farming acreage. As stated in the agricultural impact report, the average price of sugar in the world market is expected to remain well below the production costs for all countries because most sugar is traded in controlled and/or subsidized markets, while surplus sugar is "dumped" onto the world market for sale at a loss. Historic price increase cycles resulting from periods of greater consumption than production have been altered by changes in sugar and related industries. This has resulted in the reduction of peak prices and extension of periods of low prices, and pressure to drive sugar prices lower (see Appendix J).

Although the project will result in the loss of about 800 acres of prime agricultural lands over a five- to seven-year phase-out period, the applicant intends to make a long-term commitment of 1,300 acres to the north of Kamananui Road to agriculture. Hawaiian Trust Company, Ltd. has worked very closely with Del Monte to come up with a plan that would minimize impact to the plantation and its workers. This schedule would not require Del Monte to farm replacement lands until 1999. As noted in a letter from the General Manager of Del Monte's Hawaii operations (attached in Appendix J), Del Monte feels that the commitments and agreements it has made with Hawaiian Trust will allow it to remain a significant force in the Hawaii pineapple industry for years to come. He also notes that they have already found 400 acres of replacement land in the Kunia area.

Objective G *To bring about orderly economic growth on Oahu.*

Discussion: By including employment generating uses in the development plan, the project would contribute to the growth of Wahiawa as a regional business and commercial center. The additional population is expected to enhance Wahiawa's existing commercial activity.

III. Natural Environment Objectives and Policies

Objective A, Policy 1 *Protect Oahu's natural environment, especially the shoreline, valleys and ridges, from incompatible development.*

Discussion: The development provides significant buffers for the adjacent streams and gulches in the forms of linear parks along Poamoho and Kaukonahua Gulches. The applicant has been consulting with the State Department of Land and Natural Resources (DLNR), Division of Aquatic Resources and private recreational fishing groups in planning for the interface between the urban elements of the development and the Wahiawa Reservoir. The ensuing plan retains a vegetative landscaped buffer, approximately 30 feet wide, along the length of the development's boundary with the north fork of the Reservoir. These linear parks will ensure public access and enjoyment of these significant scenic areas.

Objective A, Policy 3 *Retain the Island's streams as scenic, aquatic, and recreation resources.*

Objective B, Policy 4 *Provide opportunities for recreational and educational use and physical contact with Oahu's natural environment.*

Discussion: In addition to providing a vegetative buffer for the Wahiawa Reservoir, the proposed development provides improved public access to this important fishery through a proposed boat launch ramp and public rights-of-way to the lakefront along the north fork.

IV. Housing

Objective A, Policy 3 *Encourage innovative residential development which will result in lower costs, added convenience and privacy, and the more efficient use of streets and utilities.*

Objective A, Policy 12 *Encourage the production and maintenance of affordable rental housing.*

Objective B *To reduce speculation in land and housing.*

Objective C, Policy 1 *Encourage residential developments that offer a variety of homes to people of different income levels and to families of various sizes.*

Objective C, Policy 3 *Encourage residential development near employment centers.*

Discussion: The development includes a higher-density, mixed use town center area, intended to encourage pedestrian activity and discourage the use of private automobiles within this core area.

The development concept includes affordable rentals, which could accommodate the elderly or handicapped.

The concept plan proposes a range of housing product types, from multi-family and medium density attached townhomes to single-family dwellings on a variety of lot sizes. Sales prices of the affordable homes would be in accordance with State and City income guidelines for affordable housing.

The increase in the island's inventory of affordable housing resulting from this project would slow the increases in property values owing to the current housing shortfall. Restrictions and conditions on the resale of the affordable units would deter speculation in land and housing related to this project.

The proposed development includes several employment-generating land uses. Upon full buildout of the project, these activities could provide 3,400 direct and 3,000 indirect jobs in a variety of blue- and white-collar fields.

A dual water system would be employed for the development, where potable water would be used for household consumption, and treated effluent or non-potable water would be used for golf course and large-area landscape irrigation.

V. Transportation and Utilities

Objective A, Policy 10 *Discourage the inefficient use of the private automobile, especially in congested corridors and during peak hours.*

Discussion: By providing a significant number of jobs on-site, the project would reduce the impacts to regional transportation facilities by balancing the volume of vehicles traveling to and from the site. Much as the second city has been conceived to relieve congestion in the H-1/H-2 corridors, the growth of Wahiawa and vicinity will provide a third alternative to the downtown commuter, thereby mitigating trip growth volume in the congested south shore corridors. The proposed higher-density mixed use town core area would also encourage pedestrian activity within the development by

locating residences, commercial activities and recreational facilities within convenient walking distance.

Objective B *To meet the needs of the people of Oahu for an adequate supply of water and for environmentally sound systems of waste disposal.*

Discussion: The estimated potable water demand for the project would be 2.9 million gallons per day (mgd) at full buildout. As discussed in Section 6.2 Water, the reported use of allocated water in the Wahiawa Aquifer, in which the project site is located, is 12.464 mgd less than the use authorized by the Commission on Water Resources Management (CWRM). Groundwater for the proposed project could possibly be made available from the CWRM by applying for a new water use permit. However, to have water for the project, the CWRM must first adjust (lower) the authorized water use of existing wells in the Wahiawa Aquifer by reason of partial or total nonuse for a period of four continuous years or more.

The potable water distribution system would be designed and installed with Department of Health Administrative Rules and BWS standards. It is anticipated that major phases of the water distribution system would be dedicated to the City, upon acceptance by the BWS.

Wastewater generated by the development is proposed to be treated at a 4.61 mgd tertiary-level treatment plant, to be built on Galbraith Trust property, west of the intersection of Wilikina Drive and Kamananui Road. Treated effluent would be used to irrigate the golf course and other public landscaped areas. Unused treated effluent would be available for use by adjacent agricultural operators or discharged into Wahiawa Reservoir. The treated effluent from the wastewater treatment plant that is discharged into Wahiawa Reservoir or used for irrigation purposes would have to meet strict DOH requirements, and the solids that are removed in the treatment process would be hauled to an approved disposal site. The wastewater treatment system would be constructed in accordance with City standards and would be properly operated and maintained by licensed operators.

VI. Energy Objectives and Policies

Objective B *To conserve energy through the more efficient management of its use.*

Discussion: The design and construction of the proposed facilities will incorporate energy-saving designs and devices. Furthermore, the provision of 3,400 direct operations jobs in Central Oahu will allow area residents employed on-site and in adjacent communities to shorten their commuting distance and time.

VII. Physical Development and Urban Design Objectives and Policies

Objective A, Policy 1 *Plan for the construction of new public facilities and utilities in the various parts of the Island according to the following order of priority: first, in the primary urban center; second in the secondary urban center at Kapolei; and third, in the urban fringe and rural areas.*

Objective B *To develop Honolulu (Waialae-Kahala to Halawa), Aiea, and Pearl City as the Island's primary urban center.*

Discussion: The proposed project is not expected to adversely impact the City's policy to give development priority to the Primary Urban Center or to creating a second urban

center in Ewa. As the discussion below shows, demand for the project's residential components will be drawn primarily from existing demand in the Central Oahu area, rather than from the PUC or Ewa.

The market study conducted for the project determined that primary competition for the project would be restricted to Central Oahu projects, such as Mililani Mauka, Melemanu Woodlands and Waikele. Only secondary-level competition is likely to occur with master planned communities in the Ewa area, primarily Ewa by Gentry. The analysts felt there would be minimal competition with the City of Kapolei due to its unique identity. The analysts further note that "The development of the planned employment facilities in Kapolei should position Central Oahu as an ideal location for dual income households with one downtown worker and one second city worker" (Atwater/Stanney, pp. V-3 & 4).

Objective D, Policy 1 *Develop and maintain urban-fringe areas as predominantly residential areas characterized by generally low-rise, low-density development which may include significant levels of retail and service commercial uses as well as satellite institutional and public uses geared to serving the needs of households.*

Discussion: The proposed development is predominantly residential in character and will provide a significant amount of retail and service commercial uses, as well as satellite institutional and public uses to serve the new population. The proposed business center and commercial/light industrial area will provide additional employment opportunities for the residents of the greater Wahiawa region and other parts of Central Oahu.

VIII. Public Safety Objectives and Policies

Objective B *To protect the people of Oahu and their property against natural disasters and other emergencies, traffic and fire hazards, and unsafe conditions.*

Discussion: The applicant has been in consultation with the State of Hawaii Department of Defense regarding the proposal for a siren alerting system for the area of application.

IX. Health and Education Objectives and Policies

Objective A *To protect the health of the people of Oahu.*

Discussion: As Oahu's population continues to shift to the Central and Leeward communities, and as the population of the North Shore ages, medical facilities have indicated an increased interest in Leeward and Central Oahu locations. The need for new facilities in the Wahiawa area is further evidenced by the physical constraints on the existing Wahiawa General Hospital and a single medical arts building serving the community.

The subject property has sufficient land to attract a large facility. An additional benefit of attracting a major health care facility to the site would be from the other supportive land uses such as office, limited retail and rental housing for health care personnel.

Other potential tenants include regional family practice clinics of major Oahu health care providers, along with associated physicians' offices and limited laboratory facilities.

The proposed development will adhere to all relevant State Department of Health standards and regulations and all buildings will be constructed to meet City and County Building Department standards.

X. Culture and Recreation Objectives and Policies

Objective B *To protect Oahu's cultural, historic, architectural, and archaeological resources.*

Discussion: The proposed development surrounds the five-acre Kukaniloko Birthstones Historic Park site owned by the State of Hawaii. In an effort to mitigate visual and acoustic impacts of the development on this important cultural resource, the applicant has committed an additional six acres to increase the Birthstones Park to a total of 11 acres. The elements of the development immediately surrounding this 11 acre park include open space (golf course fairways and neighborhood park) and low-rise, low-density residential development. A view corridor study (included as Appendix N) indicates that the development will not have significant adverse impacts to views of the Waianae and Koolau Ranges from Kukaniloko, and that appropriate mitigation such as landscape screening can be effectively employed. The applicant has been in consultation with the State DLNR Division of State Parks and interested community groups in identifying the issues and potential impacts of the development concept on the area's cultural resources.

Objective D *To provide a wide range of recreational facilities and services that are readily available to all residents of Oahu.*

Discussion: The development proposal includes enhanced public access to the freshwater fishery at Wahiawa Reservoir; linear ridgeline and lakefront parks along Poamoho Gulch and the north fork of the reservoir; neighborhood and community parks for both passive and active recreational use; and a public, low-fee golf course to supplement the opportunities for golf in the Wahiawa region, now supported by two military (Kalakaua and Leilehua Golf Courses) and one privately-owned (Mililani Golf Club) courses.

2. Development Plan

The City and County of Honolulu's Development Plan (DP) program provides a relatively detailed framework for implementing General Plan objectives and policies on an area-wide basis. A total of eight DP areas have been established on Oahu. The Central Oahu area consists of the plateau between the Waianae and Koolau mountain ranges.

The DP Ordinances consist of four elements: Common Provisions (applicable for all DP regions), Special Provisions, DP Land Use Maps and DP Public Facilities Maps (for each DP region).

a. Common Provisions

Section 3 of the DP Common Provisions describes the various land use categories found within each of the eight DP regions. The following section describes the DP Common Provisions land use categories being requested in this application as follows:

Residential:

"Residential areas are for single-family detached residences, duplexes, and other types of low-density cluster or common wall housing apartments."

Low-Density Apartment

"Except as otherwise specified in the special provisions of each development plan, low-density apartment areas are for low-rise, low-density multi-family residential structures."

Parks and Recreation

"Parks and recreation areas include all public parks and recreational facilities, including beach parks, playgrounds, playfields, district parks, botanical gardens, zoos, golf courses, and pedestrian malls as well as privately owned and/or operated park and recreational facilities which are provided as integral parts of developments."

Commercial Emphasis Mixed Use

"Commercial uses may be the predominant type of development. Where appropriate, the ground floor may be designed primarily for commercial uses which support establishing a new or maintaining an existing pedestrian-oriented environment. Housing may also be provided."

Commercial-Industrial Emphasis Mixed Use

"Commercial and light industrial uses may be the predominant type of development. Where appropriate, the ground floor may be limited to commercial and/or light industrial uses. Housing may also be provided."

Commercial

"Except as otherwise specified in the special provisions of each development plan, commercial areas are principally for business or commercial activities, in contrast to other types of economic activities. Limited accessory uses directly related to the principal uses may also be permitted but only on the same lot and not as a principal use."

Public and Quasi-Public

"Public and quasi-public areas include those areas designated for general governmental activities; schools, colleges, and universities; airports, harbors, bus yards, and other terminals; major health care facilities; major utility plants and substations; landfill sites, corporation yards, and maintenance yards of public agencies; religious, social, and social service institutions; and other public services."

Section 24-1.5 of the DP Common Provisions ("General Principles and Controls for Parks, Recreation and Preservation Areas" sets forth general principles and controls for the establishment of a park, recreation and preservation system within each development plan area. The following section discusses the relevant park standards and treatment of preservation areas.

Section 24-1.5(1)(B)(i)(bb) Community Parks/Centers. *Community recreation parks shall consist of 10 acres or more and serve approximately 10,000 people. Facilities may include a recreational building, playfields, courts and passive areas.*

Section 24-1.5(1)(B)(i)(cc) Neighborhood Parks/Playgrounds. *Neighborhood parks shall consist of 4-6 acres or more and serve approximately 5,000 people. Facilities may include playfields, courts and passive areas.*

Discussion: The proposed plan includes a 10-acre community park, which would provide the recreational amenities listed in the park standards, as well as one neighborhood park adjacent to the Kukaniloko Birthstones State Monument. The two parks and their locations were determined based on consultation with the City Parks Department and the State Department of Education. The applicant will continue to consult with the Parks Department as planning for the project progresses.

Section 24-1.5(2) Preservation Areas. *Preservation areas as defined in Section 24-1.3(11) encompass elements of Oahu's natural environment that give the island its essential character while also performing invaluable functions for its residents at no cost. These functions include buffering the island from storm winds and flood tides, stabilizing shorelines, purifying water and maintaining a fresh water system that supports unique wildlife and lush vegetation. Preservation areas and their related functions support the health, safety and welfare of every resident of Oahu and shall be preserved and protected from incompatible development.*

Discussion: Development of the Preservation lands would be limited to pedestrian trails and a proposed boat launch area near the reservoir spillway. Preservation areas which fall within the limits of the DP amendment application would be left in open space or a made into public park use. Establishing a turfgrass or natural vegetation system along the ridgelines would reduce the transport of sediment and chemicals into Poamoho Stream and the Wahiawa Reservoir which is now occurring.

Section 24-1.10 of the DP Common Provisions contains a set of social impact factors which are used in evaluating any proposed development as they pertain to the objectives of the general plan. The following section summarizes these impacts.

Demographic. The project would add about 8,000 new residents to the Central Oahu DP area upon full buildout and occupancy. According to the socio-economic impact assessment by Community Resources, Inc. (see Appendix H), the design and market estimates suggest that the project would house Oahu residents, most of whom would have household incomes ranging from 80 percent to 120 percent of the island median. Families living in the project are likely to consist largely of middle-income younger working families. Overall, the project is expected to mirror the State's projected age distribution. The de facto population on the project site (total number of people actually on the project site, e.g. residents at home, workers, customers, etc.) would change from time to time as the project is built out. Estimates provided by the socio-economic impact consultant suggest that the size of the population on the site would change little throughout the day--de facto and residential population totals are very similar by 2005. Commuters would leave their homes on weekdays, but workers and shoppers would come in comparable numbers to the site.

Potential social impacts identified in the socio-economic impact report include:

- The project would strengthen the local economy of upland Central Oahu by combining housing and employment generators in an area that has seen little employment growth.
- The new development may overshadow existing sections of Wahiawa and compete with existing businesses.
- By providing new housing, the project would help to lessen social strains associated with crowding and the high cost of scarce housing.
- The size of the project may contribute to the loss of Wahiawa residents' sense of their community as a small town.
- By expanding the urban area of Wahiawa, the project would tend to change the town's identity in several ways:
 - ▶ With pineapple cultivation moved away from more settled areas, Wahiawa's identity as a rural, plantation town would diminish.
 - ▶ Whitmore Village would be more likely to be viewed as a part of Wahiawa.
 - ▶ With a greater range of commercial outlets and job centers, Wahiawa would be viewed less as an Army base town, and more as a regional focus for upland Central Oahu and the nearby North Shore.
 - ▶ In the long run, the location of jobs near housing could make participation in community affairs easier for adults, helping to perpetuate volunteer activities and community organization.

The eventual outcome of these changes would greatly depend on community attitudes and organization in both the new and old parts of greater Wahiawa.

Economic. Economic impacts are discussed in Chapter 5. Economic impacts were analyzed from market assumptions that the project (1) would fill housing and commercial support needs not filled by other proposed projects, and (2) would not significantly affect the rate of growth in those other projects. In this sense, there are few islandwide or statewide impacts, because the population would occur elsewhere on the island with or without the project (even if only in overly crowded existing housing). However, the project would affect the Wahiawa study area by attracting people and economic activity which might not otherwise be located there.

In short, fiscal impacts involve the costs and revenues associated with meeting demand for housing and commercial space in a new planned community, rather than through accelerated buildout of other communities and through infill in older areas. Costs associated with those impacts are expected to occur during the construction phase, but not afterwards.

Over the period 1996-2010, the balance of revenues over costs associated with the project is positive for both the City and the State. The cumulative balance is estimated at about \$13 million for the City and \$7 million for the State, in 1992 dollars.

Personal income from construction-related wages would peak at about \$25 million annually, and full build-out of the employment centers would generate more than \$150 million per year for permanent workers. Much of this money would now re-enter the

Oahu economy through Wahiawa businesses and financial institutions rather than in some other part of the island.

Housing. The project would provide about 3,100 homes in the Central Oahu DP area, at least 60 percent of which would be affordable according to State and County guidelines. Elderly and other special needs housing rental units are included in the project concept. Speculation would be discouraged through resale conditions.

The areas immediately adjacent to the area of application are in agriculture and open space uses, and thus, property values and taxes of adjacent lands should not be impacted by the project. The project may have a *regional* impact on property values, and subsequently on property taxes. The significant number of proposed affordable homes (at least 60 percent of the planned 3,100 homes) would tend to have a stabilizing or mitigating effect on rising residential property values and taxes insofar as the increased supply reduces or mitigates the demand for affordable homes. At the same time, the additional recreational, retail, and employment opportunities proposed in the plan are hoped to complement and reinforce Wahiawa as Central Oahu's civic and retail center, a consequence which should serve to shore-up land values within Wahiawa.

Public Services. With the addition of 3,100 households, existing medical, educational, recreational, transportation, police and fire protection, and public utilities facilities in the area would be affected. The project would provide the necessary school site(s), recreational facilities, infrastructure improvements and measures to mitigate adverse impacts attributable to the project. The project may include health care facilities, which would provide services to the project residents, but also to the northern Central Oahu and North Shore region as well.

Physical Environment. The project would impact existing open space and visual resources along portions of Kamehameha Highway, Whitmore Avenue, and Kamananui Road. Locating golf course fairways along the Kamehameha Highway frontage of the development would help to preserve the scenic resources along this corridor.

Converting the land from agricultural uses to urban and park uses would impact the quality of the nearby water resources (Wahiawa Reservoir and Poamoho Stream). The current agricultural operations are recognized as a significant source of non-point pollution due to sedimentation and pesticide transport due to erosion and runoff. Future runoff would be subject to State and County permit requirements. Furthermore, the establishment of a turfgrass system (in the form of the golf course and lakefront and ridgeline parks) would reduce the amount of pesticides and herbicides-related chemicals reaching the water resources.

Section 24-1.15 ("Golf Course Development") of the DP Common Provisions contains standards and criteria which govern the evaluation, acceptance for processing and approval of any application for development plan amendment which contemplates any golf course use. The golf course included in the development proposal is discussed below with respect to these standards and criteria below.

(1) Social and Growth Criteria

(A)(i) Provision of open space

Several of the proposed golf fairways are sited along both sides of Kamehameha Highway north of its intersection with Whitmore Avenue. The golf fairways also

extend along the east side of Kamehameha Highway north of its intersection with Kamananui Road, providing an open space corridor along this well-traveled route to the North Shore.

(A)(ii) Displacement

The proposed golf course would not displace any residents. The course would replace the existing agricultural use, although the phasing of its development has been coordinated with the current lessee in a way that would minimize dislocation impacts. The current lessee, Del Monte Fresh Produce (Hawaii), Inc., is working to secure replacement land with other Central Oahu landowners.

(A)(iii) Use of Prime Agricultural Land

The proposed golf course is located on lands classified as "B" by the Land Study Bureau, or prime agricultural land.

(A)(iv) Green Fees

The following four golf courses are in the vicinity of the proposed Wahiawa Lands golf course. Two are military courses limited to armed forces personnel and their guests, or on occasion, tournament play. The proposed Wahiawa Lands golf course is planned as a public play course (possibly a municipal course), with affordable green fees.

Kalakaua Golf Course

This military course is located at Schofield Barracks, approximately two miles southwest of the proposed Wahiawa Lands golf course. Membership to this course is limited to military personnel, with civilians allowed to play as guests. Green fees are \$22, with cart rental available for \$6 per person.

Leilehua Golf Course

This is also a military course, which is located two miles south of the project area. Membership is limited to military personnel. Civilians may play as guests. Green fees are \$26, and cart rental is \$6 per person.

Mililani Golf Club

This is a privately-owned course is located about four miles south of the project site, which is open to the public. Green fees (inclusive of cart rental) for residents are \$35 for weekdays and \$40 for weekends.

Hawaii Country Club

This course is located in Kunia, approximately six miles south of the proposed golf course. It is a semi-private course, with set green fee/cart rental fees of \$25 during weekdays, and \$37 on the weekends for residents.

(A)(v) Traffic Impacts

Traffic generated by the golf course is not likely to contribute significantly to peak hour volumes in the area.

(A)(vi) Archaeological Impacts

The proposed golf course would not have an adverse impact to the nearby historic site (Kukaniloko Birthstones). The master plan proposes an enlarged park site further surrounded by golf fairways. This additional open space buffer would preserve the open space environment surrounding that currently surrounds the Birthstone site.

(B) Type

The golf course layout responds to three primary issues within the master plan: 1) visual and scenic resources, 2) on-site infrastructure systems, and 3) historic resources.

Visual and Scenic Resources. The golf course was sited in a way that would preserve the maximum feasible amount of open space resources along the Kamehameha Highway corridor through the project area. This was done by locating several golf fairways along the highway, providing a buffer between the highway and single family homes to the east.

On-site Infrastructure Systems. By locating golf fairways on both sides of Kamehameha Highway, the golf course would provide for on-site stormwater retention and an area for ground water recharge throughout the development site. The golf course would also be used as a receiver of treated effluent generated at the site.

Historic Resources. As discussed above, several holes of the golf course would surround the expanded Kukaniloko park, providing an open space buffer between the Birthstones and the planned multi-family homes to the north and west.

(2) Economic Criteria

Golf courses are found to affect immediately adjacent residential properties. The proposed golf course is completely surrounded by project lands, roads, or undevelopable lands (gulches), therefore, no existing properties would be affected by the development of the proposed golf course.

(3) Environmental Quality Criteria

The following section discusses how the proposed golf course responds to the following environmental quality criteria.

(A) Integrated Management Plan

An integrated turfgrass management plan has been established for the proposed golf course, which is included in the golf course assessment prepared by William J. Walker, Ph.D. (Appendix A). Items covered in the integrated management plan include:

- pest/nutrient usage guidelines
- alternate pest control strategies
- water quality guidelines
- construction guidelines

(B) Modeling Studies

Computer modeling simulations were performed to evaluate the fate and movement of chemicals used in management of the proposed golf course. The results of the modeling study is included in the golf course assessment attached as Appendix A.

(C) Groundwater Monitoring Plan

Components of a groundwater monitoring system are discussed in the golf course assessment. The monitoring system would comply with applicable State Department of Health guidelines.

(D) Solid Waste Disposal Plan

A solid waste disposal plan would be established for the proposed golf course, which would be in accordance with relevant State Department of Health guidelines.

(E) Water Conservation

Wastewater generated by the project would be treated at a tertiary level and the effluent used, in part, for irrigation of the golf course. Because of the amount of annual rainfall at the project site and the future availability of treated effluent, the golf course is not expected to require the use of potable water.

Golf course water source and irrigation plans shall be subject to the review and approval of the Board of Water Supply.

(F) Golf Course Design

The golf course was designed to complement the natural drainage pattern on site. The golf course would provide stormwater retention basins to detain discharge of runoff into the Wahiawa Reservoir until after the peak flows have passed.

(G) Wildlife Habitats

According to a survey of avifauna and mammals conducted by Phillip L. Bruner (Appendix D), the proposed golf course would provide habitat, beyond that which presently occurs on the property, for migratory birds, such as Pacific Golden Plover and Ruddy Turnstone. These two species readily forage on open lawns.

(H) Runoff Impacts to Water Resources

The golf course and hydrology assessments prepared for the project discusses potential impacts to water resources due to construction grading, pesticide and herbicide use; recommends and measures which would mitigate runoff during grading and construction of the course, candidate turfgrasses and irrigation practices. These impacts and mitigation measures are described in Section 4.4 Water Resources.

(I) Golf Course Superintendent

The course will employ a golf course superintendent who would be responsible for implementing the approved turfgrass management system practices.

(J) Oahu Water Management Plan

The water demand for the proposed golf course would be satisfied through rainfall at the site and irrigation by treated effluent. The proposal conforms to the provisions of the Oahu Water Management Plan.

Section 24-1.15(c) Community Integration Program

The applicant will establish a community integration program in consultation with the Chief Planning Officer and the affected community. The applicant recognizes that the program may include but is not limited to the following elements:

- (1) An employment program to ensure that local job applicants possess the requisite skills and are given full consideration for all employment opportunities associated with the golf course project.
- (2) Public play on the golf course at affordable rates and at convenient times to the golfing public.
- (3) A junior golf program.
- (4) The availability of clubhouse facilities and any other amenities for public use.
- (5) The establishment of hiking, biking and jogging paths around the perimeter of the project.
- (6) The consideration of local suppliers for obtaining development, operational and maintenance materials for the golf course development project.

Specifics of the proposed Community Integration Program will be determined in consultation with the Chief Planning Officer and the affected community once DP amendment approval is obtained.

b. Special Provisions

The DP Special Provisions for Central Oahu set forth urban design considerations for development within the district for open space and public views. Open space urban design considerations state that the "visibility, preservation, enhancement and accessibility of open space areas as defined in Section 24-1.4 of the development plan common provisions shall be given higher priority in the design of nearby developments in Central Oahu. These areas include, but are not limited to the slopes of the Koolau and Waianae mountain ranges, Kipapa Gulch, Waipio Peninsula, and the Wahiawa Reservoir." Section 24-1.4(2) of the DP common provisions states that the "City's mountains, hills, shoreline and streams shall be considered as major scenic, open space and recreational resources. Adequate public access to these resources shall be incorporated as part of developments adjacent to them."

The proposed development is located adjacent to the Wahiawa Reservoir, and includes a linear public park along the reservoir and Kaukonahua Stream. This would provide greater opportunities for public access to this presently restricted open space resource. The development also includes a ridgeline linear park along Poamoho Gulch.

Section 24-5.2(a)(2) of the Special Provisions for Central Oahu (Specific Urban Design Considerations - Public Views) states that "in order to promote pleasing and attractive

living environments and panoramic mauka and makai views from public places, views of major landmarks from public places shall be protected whenever possible. Important views include...view of the upper Central Oahu plains toward Waialua from the end of Koa Street."

The proposed development would alter the view of the Central Oahu plains from the end of Koa Street. The linear park on the north side of Kaukonahua Stream would provide a visual buffer for the commercial-light industrial and residential areas north of the stream.

The applicant feels strongly that the proposed development would need to be compatible with and supportive of the greater Wahiawa/Schofield/Whitmore area. The development should integrate with the existing communities and attempt to achieve a synergistic relation to its surroundings, as opposed to a stand-alone enclave community. Notwithstanding this philosophical approach, the applicant feels a Special Area designation is appropriate from a planning perspective and requests an amendment to the DP Special Provisions for Central Oahu to define and include the proposed project as a Special Area, with specific principles and controls guiding its development and design. The applicant also requests to amend the description of Wahiawa to incorporate a more regional perspective, which would include the mention of Schofield Barracks, Wheeler Air Force Base, Whitmore Village, Poamoho Camp and the Wahiawa Lands development. Proposed text amendments to the Special Provisions have been submitted to the Department of General Planning, and are included as Appendix M.

c. Land Use Map

The entire project area is designated Agricultural and Preservation on the DP Land Use Map for Central Oahu (Figure 8). This application to amend the Central Oahu DP Land Use Map requests that the area of application, consisting of 871 acres, be designated as follows:

Residential	347 acres
Parks and Recreation	297 acres
Low-Density Apartment	79 acres
Commercial Emphasis Mixed Use	64 acres
Commercial-Industrial Emphasis Mixed Use	41 acres
Public and Quasi-Public	25 acres
Commercial	18 acres

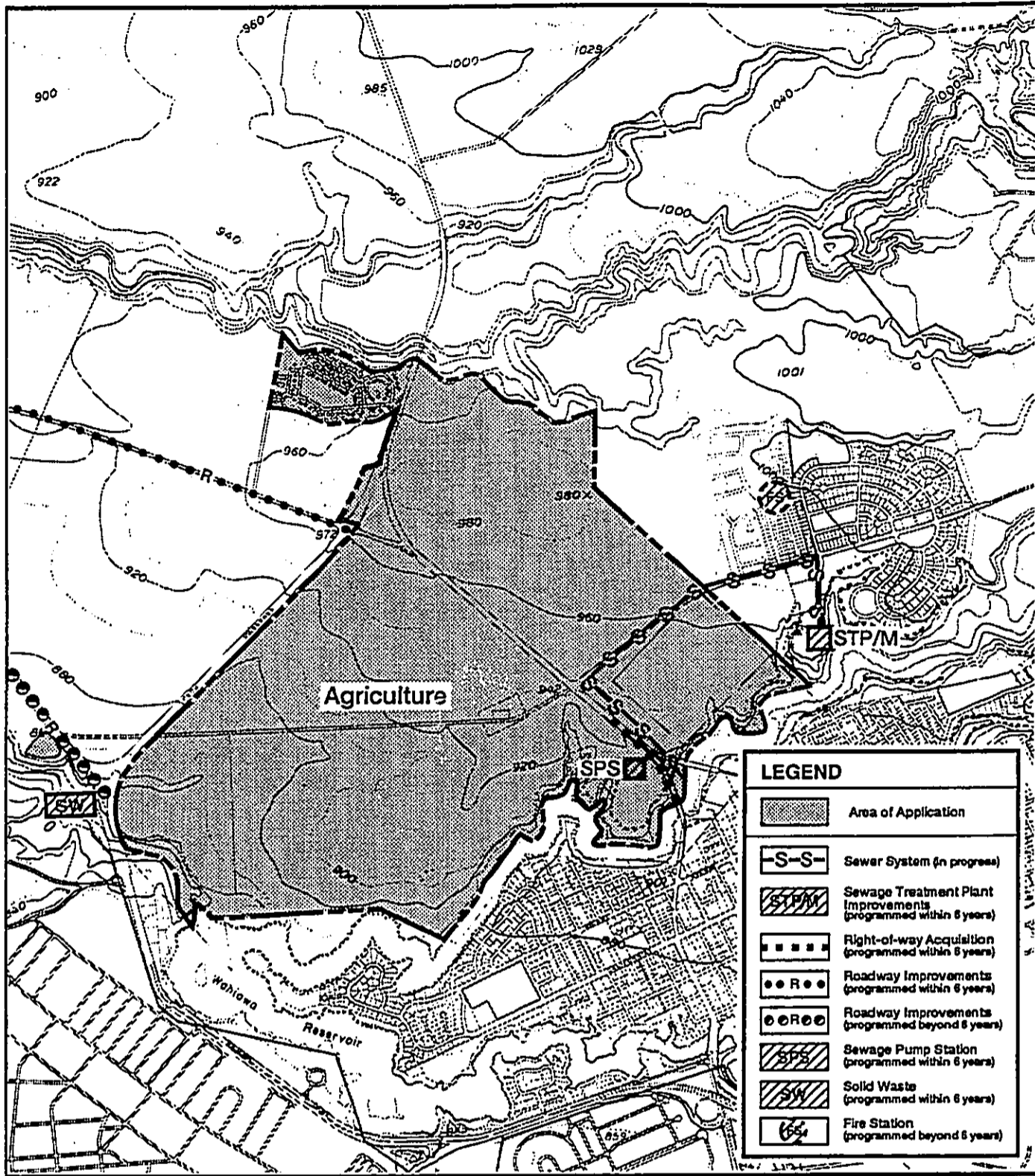
Figure 9 shows the proposed DP Land Use Map for the area of application.

d. Public Facilities Map

The DP Public Facilities Map for Central Oahu (shown in Figure 8) indicates planned and ongoing improvements to roadway, solid waste, wastewater, and fire protection facilities in the vicinity of the area of application as follows:

In progress

Construction of a new sewer system between the intersection of Kamehameha Highway and Kilani Avenue and the intersection of Whitmore Avenue and Ihiihi Street.

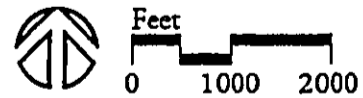


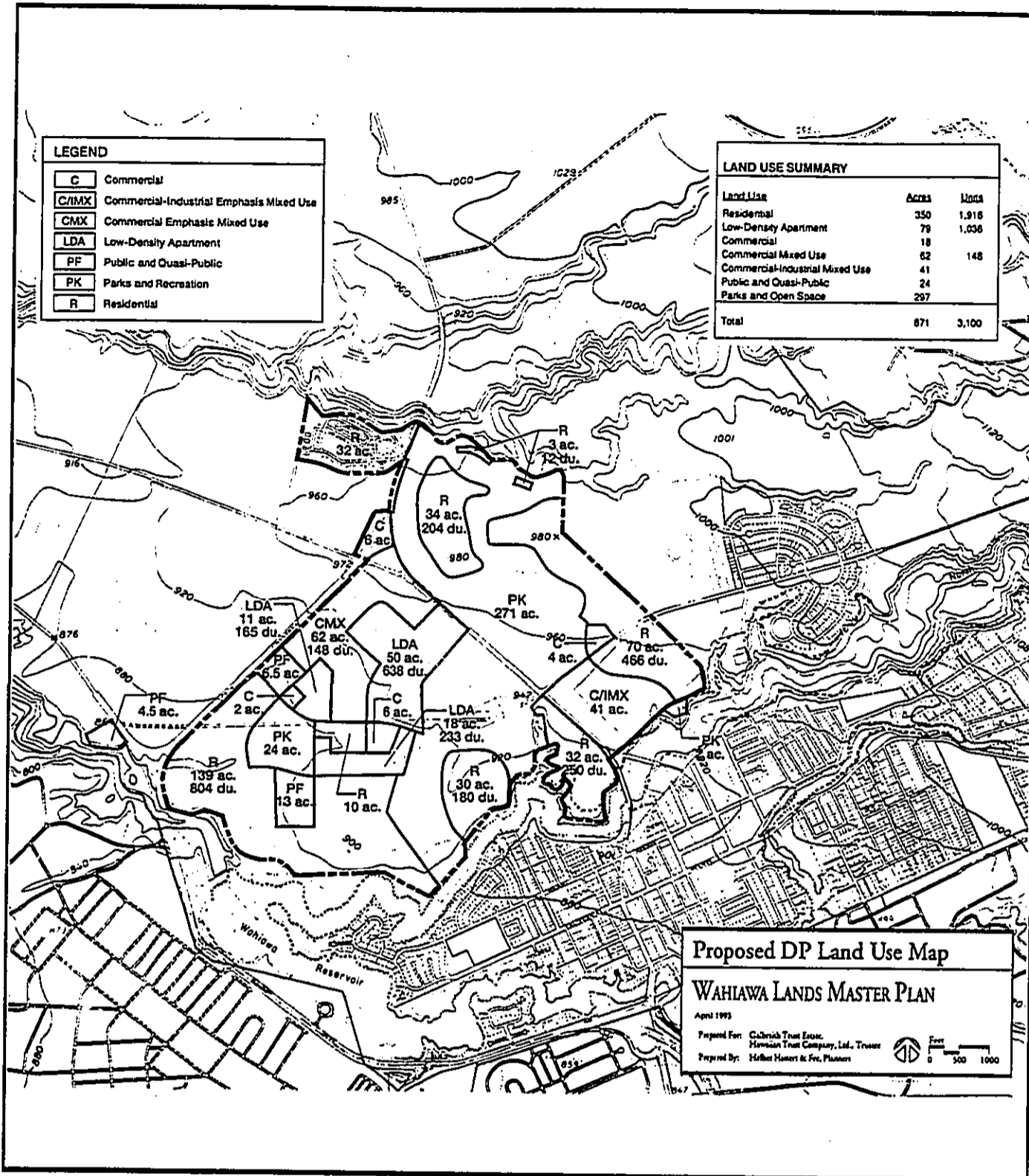
Current DP Land Use & Public Facilities Map

Figure: 8

WAHIAWA LANDS MASTER PLAN

Prepared For: Galbraith Trust Estate,
Hawaiian Trust Company, Ltd., Trustee
Prepared By: Helber Hastert & Fee, Planners





Proposed DP Land Use

Figure: 9

WAHIAWA LANDS MASTER PLAN

Prepared For: Galbraith Trust Estate,
Hawaiian Trust Company, Ltd., Trustee

Prepared By: Helber Hastert & Fee, Planners



Not to Scale

Programmed within 6 years

Modification of existing sewage treatment plant near Whitmore Village; acquisition of additional right-of-way along Kamehameha Highway from the intersection of Kilani Avenue to the north side of Karsten Thot Bridge; construction of a new sewage pump station along Kamehameha Highway on the north side of Kaukonahua Gulch; roadway improvements on Kaukonahua Road from its intersection with Kamehameha Highway to the intersection with Wilikina Drive; construction of a solid waste facility near the intersection of Wilikina Drive and Kamananui Road.

Programmed beyond 6 years

Construction of a fire station in the Whitmore Village area; roadway improvements to Wilikina Drive north of Kaukonahua Gulch.

The proposed 4.61 mgd tertiary level wastewater treatment plant will require a separate Development Plan Public Facilities Map Amendment application. This will be initiated later this year.

3. Land Use Ordinance

Under the City and County of Honolulu Land Use Ordinance, the area of application is zoned A-1 Restricted Agricultural. The area proposed for a boat launch ramp, located along Wahiawa Reservoir and Kaukonahua Stream, is zoned P-1 Restricted Preservation (Figure 7). Upon approval of this application, rezoning of the area to be consistent with the requested Central Oahu DP Land Use Map amendment would be sought.

4. Central Oahu/North Shore Regional Plan (Draft)

The Central Oahu/North Shore Regional Plan represents a regional planning effort initiated by City Council Resolution in 1990 with multiple objectives directed towards the preparation of a preferred plan for Central Oahu and North Shore residents. The Task Force planning approach included establishing a series of committees which received and reviewed reports from agencies, landowners, developers, and community organizations between December 1990 and December 1991. The Task Force has published a draft report of its findings and recommendations. Planning for the proposed Wahiawa Lands project commenced in January 1992, and therefore, the project was not discussed or reviewed by the Task Force.

The Draft Regional Plan provides broad recommendations in the areas of economic activities, social services and community development, environmental resources, infrastructure supports and implementation. The Task Force was concerned about the rapid increase in population during the 1980s and attendant problems with traffic, infrastructure systems and access to governmental services. The regional plan is supportive of agricultural activities in the region, preservation of prime agricultural lands and the rural lifestyle enjoyed by area residents. The plan supports the development of affordable housing, the upgrading of infrastructure support systems, and a diversified economic base.

Impacts of the Project on the Plan

As noted, the proposed action was not considered by the Task Force and there is therefore no way of determining how the plan would have been received by the group.

The draft plan indicates the project area as remaining in pineapple production. Based on the analytical framework established by the Task Force, the project would likely be evaluated with respect to its impacts on specific issues or areas of concern such as preservation of the agricultural industry and open space, provision of affordable and special needs housing, diversification of the economic base, creation of new employment opportunities, protection of environmental resources, support for innovative planning approaches to minimize dependency on automobiles, development of adequate supporting infrastructure, and creation/enhancement of recreational opportunities (among others). These issue areas are analyzed and described in detail elsewhere in this report.

It is recognized that community plans are dynamic and must be flexible to changing conditions. The applicant has worked closely with the Wahiawa/Whitmore community over the past year in an effort to learn about the community and understand its particular areas of concern and desire. The proposed plan is sensitive to, and consistent with many of the issues raised in the Central Oahu/North Shore draft report, and is clearly inconsistent with others. This mix of compatibility is reflective of diverse community attitudes and the natural push and pull of competing public policies. Should the Central Oahu/North Shore Regional Plan be accepted and adopted as an official policy document, the applicant would endeavor to have the plan amended to incorporate the proposed plan.

CHAPTER 4

Assessment of Existing Conditions
and Probable Impacts:
Physical Environment

CHAPTER 4	ASSESSMENT OF EXISTING CONDITIONS AND PROBABLE IMPACTS: PHYSICAL ENVIRONMENT
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4.1 Climate

Temperature. The project area may be considered typical of Hawaii's climate with little seasonal or diurnal temperature variation. Monthly temperature averages vary by only a few degrees from the warmest months (July and August) to the coolest (January and February). Mean annual temperature is 72° F.

Rainfall. Rainfall in the project area ranges from 40 to 60 inches per year. In accordance with Thornwaite's scheme for climatic classification, the area thus ranges from subhumid grassland to humid forest.

Surface Winds. The area is subjected to prevailing northeasterly trade winds on an annual basis. The peak traffic hour winds are discussed in Section 4.7 on air quality impacts.

4.2 Geology, Physiography and Topography

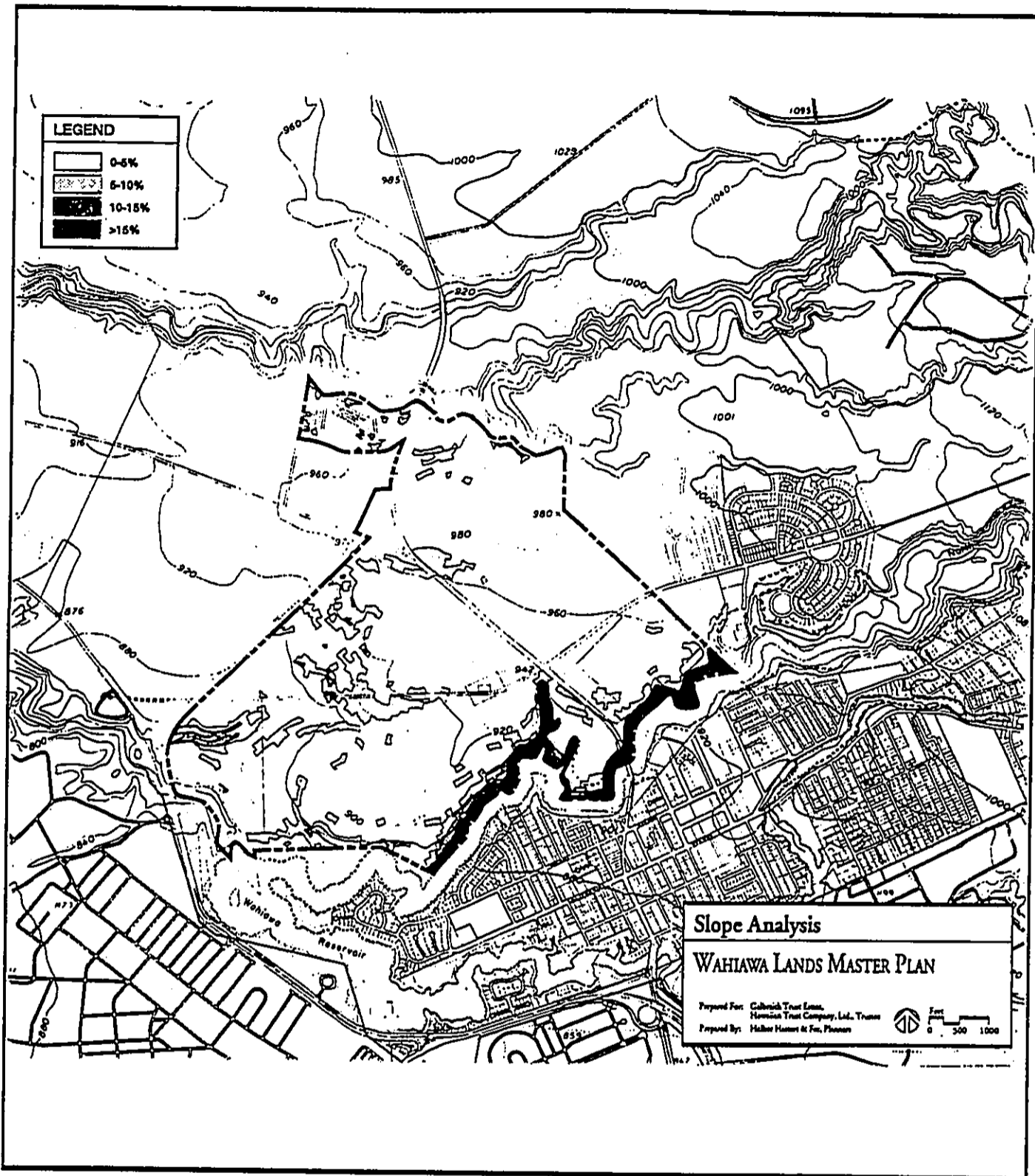
Existing Conditions

The site lies on a gentle grade between Whitmore Village (c. 980' elevation) and Wilikina Drive (c. 900' elevation), with steeper slopes and gullies near Kaukonahua Gulch and Poamoho Gulch and along the Wahiawa Reservoir frontage. The lowest point on the property is at the Kamehameha Highway/Karsten Thot Bridge area (c. 850' elevation).

The project site is situated on gently sloping, thin-bedded basalt lava flows which erupted from the Koolau Range. During the shield-building period of Koolau Volcano, innumerable lava flows originated in the Koolau Range and flowed 10 miles westward toward the Waianae Range. Eventually, these lava flows (Koolau) accumulated and banked up against the older, steeply dipping, eroded Waianae lava flows, forming the Wahiawa-Schofield plateau and the gentle slopes of north-central and south-central Oahu. Most of the site experiences slopes of less than five percent with some localized areas in the five to ten percent range. The banks of the Wahiawa Reservoir are very steep (>15 percent) except in the western area of the site in the vicinity of the reservoir spillway. Figure 10 shows the slopes on the property.

Impacts

Terrain features at and adjacent to the development site (change in elevation and presence of slopes and gullies) will probably result in the acceleration and funnelling of high winds. The specifications of the structures in the development to withstand these winds will be determined when zoning approvals are sought and the urban design plan is formulated. Possible mitigation measures include landscaping to serve as windbreaking features.



Slope Analysis

Figure: 10

WAHIAWA LANDS MASTER PLAN

Prepared For: Galbraith Trust Estate,
Hawaiian Trust Company, Ltd., Trustee
Prepared By: Helber Hastert & Fee, Planners



Not to Scale

4.3 Soils

Existing Conditions

An assessment of the impacts of the proposed golf course was conducted by William J. Walker, Ph.D. (attached as Appendix A), which included a description of the soils of the area of application. The soils of the site belong to the Helemano-Wahiawa association. The association makes up 18 percent of the island. Mean soil temperature is between 71 and 73°F. The analysis showed that the soils at the site have the following general characteristics:

- Very productive, of near neutral pH, are well-drained with excellent permeability.
- Highly suitable for grass land areas and turf.
- Deep, very well-drained with moderate to moderately high hydraulic conductivities.
- Runoff potential at the site is low except in the southern boundary areas where slopes increase to almost 90 percent.

The following section describes the soil types found at the project site in greater detail.

U.S. Soil Conservation Service. According to the U.S. Department of Agriculture Soil Conservation Service, soils in the area of application consist of Wahiawa Silty Clay, 0-3% slopes (WaA); Wahiawa Silty clay, 3-8% slopes (WaB); Wahiawa Silty Clay, 8-15% slopes (WaC); Kunia Silty Clay, 0-3% slopes (KyA); Kolekole Silty Clay Loam, 1-6% slopes (KuB); Kolekole Silty Clay Loam, 12-25% slopes (KuD); Helemano Silty Clay, 30-90% slopes (HLMG); and Fill Land, Mixed (FL). These soil types are described below and shown in Figure 2. Wahiawa Silty Clay 0 to 3 percent slopes and 3 to 8 percent slopes soil types make up 88 percent of the soils on the project area. Figure 11 shows the distribution of the soil types at the project site.

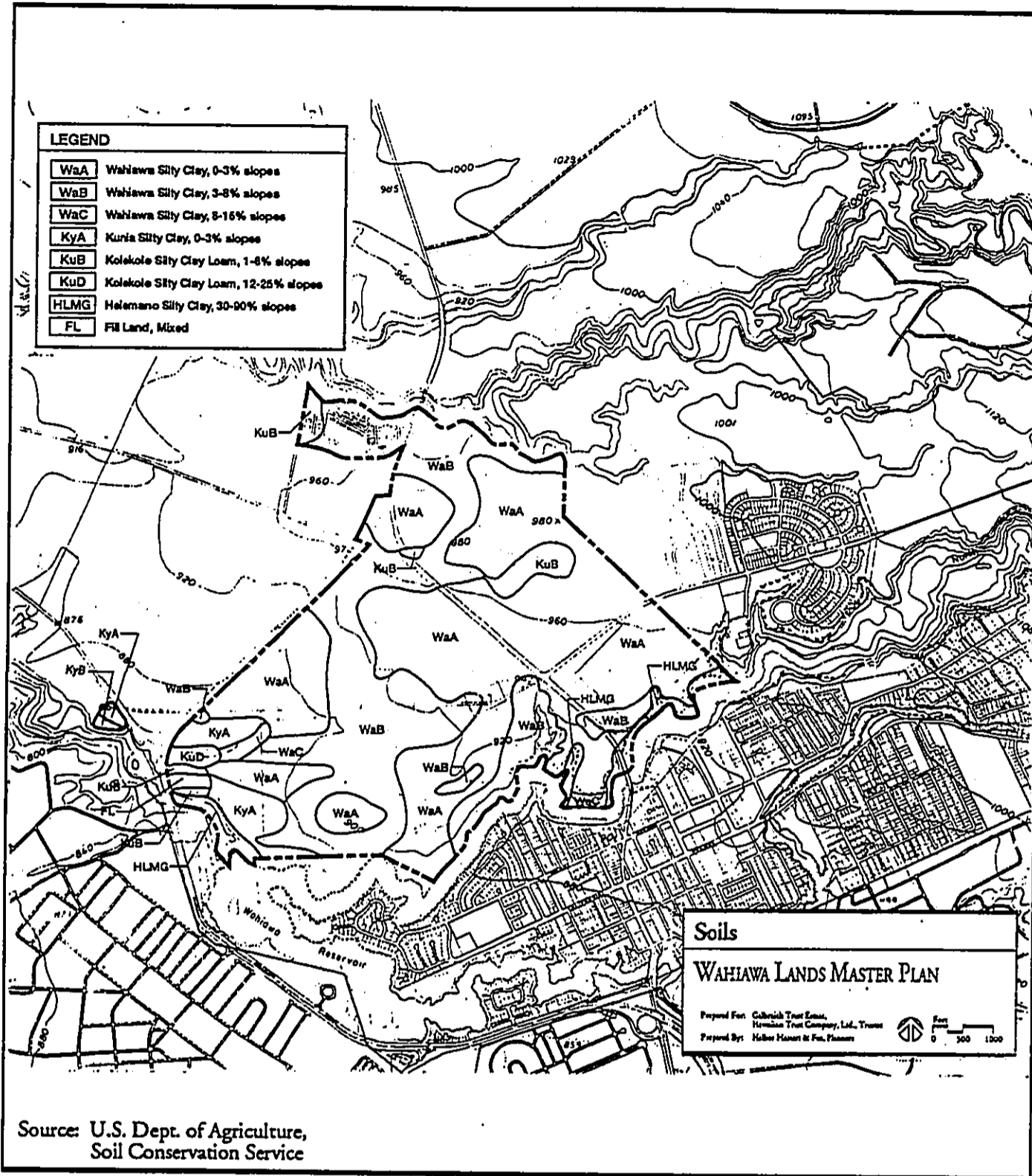
a. **Wahiawa Silty Clay, 0 to 3 percent slopes (WaA)**

The Wahiawa series consists of well-drained soils on uplands of Oahu. These soils developed in residuum and old alluvium derived from basic igneous rock. This subseries of the Wahiawa series occupies approximately 53 percent of the area of application.

In a representative profile, the surface layer is very dusky red and dusky red silty clay about 12 inches thick. The subsoil, about 48 inches thick, is dark reddish-brown silty clay that has subangular blocky structure. The undersoil is medium acid in the surface layer and medium acid to neutral in the subsoil. Permeability is moderately rapid. Runoff is slow, and the erosion hazard is no more than slight. In place, roots penetrate to a depth of five feet or more. This soil type is characterized as having high shear strength.

b. **Wahiawa Silty Clay, 3 to 8 percent slopes (WaB)**

Runoff is slow and the erosion hazard slight on this soil type. This subseries occupies about 35% of the area of application, and has high shear strength.



Source: U.S. Dept. of Agriculture,
Soil Conservation Service

Soils

Figure: 11

WAHIAWA LANDS MASTER PLAN

Prepared For: Galbraith Trust Estate,
Hawaiian Trust Company, Ltd., Trustee
Prepared By: Helber Hastert & Fee, Planners



Not to Scale

c. **Wahiawa Silty Clay, 8 to 15 percent slopes (WaC)**

On this soil, runoff is medium and the erosion hazard is moderate. This subseries comprises less than one percent of the area of application.

d. **Kunia Silty Clay, 0 to 3% slopes (KyA)**

This series consists of well-drained soils on upland terraces and fans on Oahu. These soils developed in old alluvium. They are nearly level to moderately sloping. This subseries of the Kunia Silty Clay series occupies about four percent of the area of application.

In a representative profile, the surface layer of this soil is dark reddish-brown silty clay about 22 inches thick. The surface layer is medium acid to extremely acid, and the subsoil is slightly acid to strongly acid. Permeability is moderate. Runoff is slow, and the erosion hazard is no more than slight. In places, roots penetrate to a depth of five feet or more.

e. **Kolekole Silty Clay Loam, 1 to 6% slopes (KuB)**

This series consists of well-drained soils on uplands on Oahu. These soils developed in old gravelly alluvium mixed with volcanic ash. This subseries of the Kolekole Silty Clay series occupies about three percent of the area of application.

Permeability is moderately rapid to the panlike layer moderate in the compact subsoil. Runoff is slow, and the erosion hazard is slight.

f. **Kolekole Silty Clay Loam, 12 to 25% slopes (KuD)**

This soil occurs on narrow side slopes, mainly along drainage ways.. Runoff is medium to rapid, and the erosion hazard is moderate to severe. Workability is difficult because of the slope. This soil occupies less than one percent of the area of application.

g. **Helemano Silty Clay, 30 to 90% slopes (HLMG)**

The Helemano Series consists of well-drained soils on alluvial fans and colluvial slopes on Oahu. This subseries is on the sides of V-shaped gulches. In a representative profile, the surface layer is dark reddish-brown silty clay about 10 inches thick. The soil is neutral in the surface layer and neutral to slightly acid in the subsoil. Permeability is moderately rapid. Runoff is medium to very rapid, and the erosion hazard is severe to very severe.

This soil occupies about three percent of the area of application.

h. **Fill Land, Mixed (FL)**

This land type consists of areas filled with material dredged from the ocean or hauled from nearby areas, garbage, and general material from other sources. This land type is used for urban development, and is not in a capability classification.

U.H. Land Study Bureau Detailed Land Classification. The University of Hawaii Land Study Bureau's *Detailed Land Classification --Island of Oahu* classifies soils by land type in which classifications are provided for an overall crop productivity rating,

with and without irrigation, and for selected crop productivity ratings for seven crops. LSB overall ratings range from A to E, with A being the best. According to this classification system, most of the property is classified as "B" or prime agricultural land. There are patches of "C" and "E" lands in the property margins and gullies.

Agricultural Lands of Importance to the State of Hawaii (ALISH). The ALISH system consists of the mapped identification of three broad classes of agricultural land based, in part, on the criteria established by the Soil Conservation Service. The area of application contains soils identified as "Unique Agricultural Land." These lands are described as "land that has the special combination of soil quality, location, growing season moisture supply, and is used to produce sustained high quality and or high yields of a specific crop when treated and managed according to modern farming methods."

Proposed Land Evaluation and Site Assessment (LESA) System. This proposed classification system, by the State of Hawaii Land Evaluation and Site Assessment Commission, would designate a sufficient amount of the better agricultural lands to meet projected agricultural goals. If the LESA classification approach were applied to the proposed site, all of the designated lands--except fill land and land on side slopes--would be termed "important agricultural lands" (IAL). The majority of the land is rated 94 and 96 out of a possible total of 100. For Oahu, ratings of 66 or above indicate IAL.

Impacts

Land disturbance during construction exposes bare soil to water and wind erosion, surface crusting, and loss of soil physical structure (Richards and Middleton, 1978, in Walker, 1992). Potential adverse environmental impacts include surface runoff, flooding, and erosion. The amount of sediment lost from disturbed construction sites depends primarily on (1) the duration and extent of disturbance, (2) the volume and rate of surface runoff, (3) the configuration and topography of the exposed site, and (4) the use of mitigating soil conservation practices.

Mitigation Measures

Grading for the development will comply with the Department of Health Administrative Rules, and City and County ordinances and standards. In particular, it will be necessary to obtain a National Pollutant Discharge Elimination System (NPDES) permit or permits from the Department of Health, and a City and County of Honolulu grading permit before any land clearing activities can commence. The latter requires approval of grading, drainage and erosion control plans.

Mitigation measures include the minimization of the need for site disturbance and reshaping of natural landscape elements. Avoiding design elements that encourage development of gullies, reroute streams, or change the natural surface and subsurface drainage is critical for long-term site stability.

During construction, temporary erosion control devices will mitigate offsite transport of eroded sediment. These practices include: (1) constructing temporary silt fences to stop particle transport; (2) construction of small check dams or weirs to flatten upstream slopes and decrease the velocity of runoff; and (3) use of temporary mulches, matting, or blankets to reduce erosive forces until vegetation or long-term measures are in place. Other mitigation measures include temporary sediment retention basins and vegetative filters.

Immediate coverage of bare soil surfaces by seeding with turfgrass or placement of sod reduces the risk of erosion. Surface coverage provides important protection against wind erosion. Restoration of turfgrass, wooded areas along streambanks, and adapted natural vegetation are some of the best means for long-term control of erosion.

4.4 Groundwater Resources

A study of the groundwater resources and supply related to the proposed project was prepared by Water Resource Associates (WRA), and is attached as Appendix B. The report also discussed potential impacts on ground water and the mitigative measures which can be undertaken to reduce or eliminate the potential for contamination of the underlying aquifer.

Existing Conditions

Regional Hydrogeologic Setting. The project site is situated on gently sloping, thin-bedded basalt lava flows which erupted from the Koolau Range. During the shield-building period of Koolau Volcano, innumerable lava flow originated in the Koolau Range and flowed 10 miles westward toward the Waianae Range. Eventually, these lava flows (Koolau) accumulated and banked up against the older, steeply dipping, eroded Waianae lava flows, forming the Wahiawa-Schofield plateau and the gentle slopes of north-central and south-central Oahu. The accumulation of these thin-bedded, permeable Koolau lavas set the stage for the occurrence of the three major aquifers--the Wahiawa High-Level Aquifer, the Waiaua Basal Aquifer on the north, and the Koolau (Pearl Harbor) Basal Aquifer on the south. The Koolau lava flows in the Wahiawa area are deeply weathered with a typical horizon consisting of about 20 feet of residually weathered soils/subsoils, 120 feet of saprolite, and unweathered basalt below the saprolite. The project site is located in the western portion of the Wahiawa-Schofield plateau and is above the Underground Injection Control (UIC) line.

Groundwater Occurrence. The mountains of the Koolau Range, where rainfall averages between 200 and 250 inches a year, are the primary source of groundwater recharge to the great groundwater bodies of central Oahu. Rainfall on the Koolau range percolates easily into the ground and sustains groundwater at high levels in dike-intruded lavas associated with the Koolau rift zone. Beneath the Koolau Range, east of the Wahiawa plateau, dike-confined groundwater bodies occur at level approaching 880 feet above sea level and continue to occur northward in the dike-intruded lavas of the rift zone, at gradually declining levels which fall to about 20 feet above sea level at Kawela Bay.

Beneath the Wahiawa plateau, high-level groundwater (formerly referred to as the Schofield High-Level Body, now called the Wahiawa High-Level Aquifer) occurs at somewhat lower level of about 280 feet above sea level. The Wahiawa High-Level Aquifer covers a 69-square mile trapezoidal area and is bounded on the north and south by groundwater dams consisting of ridges of low permeability formations which are inferred entirely from hydrologic evidence of differential water levels in several wells.

Along the northern boundary and hydraulically downgradient of the Wahiawa High-Level Aquifer occurs the Waialua Basal Aquifer, which discharges northward to the coast. This coastal aquifer comprises a 17-square mile trapezoidally shaped area with Kaukonahua Gulch marking its western boundary and Anahulu River its eastern boundary.

Along the southern boundary of the Wahiawa High-Level Aquifer and hydraulically downgradient, occurs the Pearl harbor basal water body which embraces an area of 120 square miles and discharges southward to the broad coastal stretch of Pearl Harbor.

Water Levels and Groundwater Movement. The Wahiawa Aquifer System is comprised of three distinct water bodies. In the extreme eastern part of the aquifer system, beneath the Koolau Range, high-level groundwater bodies occur in dike-intruded lava flows associated with the Koolau Rift Zone. These rift zone basalts have moderate yields and water levels occurring approximately 880 feet above sea level, based on water development tunnels constructed beneath the Koolau Range. In the extreme western part of the aquifer system, little hydrologic data is available, but groundwater bodies presumably occur at similar high levels in moderate to low yield, dike-intruded Waianae basalts. The bulk of the Wahiawa Aquifer System, however, is comprised of an extensive body of high-level water occurring approximately 280 feet above sea level in dike-free Koolau lava flows extending across the Wahiawa Plateau. Based on measurements at various times by various well owners, only an approximation of the water table and direction of groundwater movement within the aquifer can be made.

Based upon the occurrence of rainfall and the reported water levels of the various wells in the Wahiawa Aquifer, principal groundwater movement is westward from the high recharge area of the Koolau Range toward the project site, northward toward the Waialua Basal Aquifer and southward toward the Ewa-Kunia, Waipahu and Waiawa Basal Aquifers. Relatively minor groundwater movement probably occurs from the suspected higher-level water bodies beneath the Waianae Range toward the Schofield area.

Impacts

As the proposed development lies over the Wahiawa High-Level Aquifer, which occurs approximately 650 feet below the surface, any use of the project lands, whether for the proposed urban development or for its current use of pineapple cultivation, has the potential to result in contamination of the groundwater below. This is true for other areas which overlie the aquifers of Central Oahu.

However, it is expected that the proposed project will not pose any significant threat to the supply and quality of the underlying groundwater aquifer if developed within existing environmental guidelines and appropriate mitigative measures. The following discussion summarizes potential impacts on groundwater resources and related issues.

Sustainable Yield. The withdrawal of an average of 2.9 mgd of potable groundwater from the Wahiawa High-Level Aquifer to meet the project's requirements is expected to be included as a part of the 23.0 mgd sustainable yield limit that has been set by the State Commission on Water Resource Management (CWRM). Although permits have been issued for almost all of the 23.0 mgd, actual water use during the past five years (1987-1991) has averaged only 10 mgd. In this situation, the CWRM may adjust the existing authorized use and reallocate the unused portion to existing and/or new wells. A detailed discussion of potable water requirements is found in Chapter 6. The applicant is not aware of any proposed developments or other commitments of the unused allocation of the Wahiawa High-Level Aquifer sustainable yield. The applicant will be required to obtain a water use permit application from the CWRM for the project.

The proposed project will affect about 800 acres of land planted in pineapple and about 100 acres of open land. The estimated loss of groundwater recharge due to removal of 800 acres from pineapple cultivation is 2.0 mgd and the estimated loss due to urbanization of 100 acres of open area is 0.15 mgd, for a total of 2.15 mgd. These estimates are based on the results of Shade (1991) Distribution of Ground Water Recharge, Oahu, Hawaii. However, the estimated 2.15 mgd loss of recharge will be offset to some extent by direct rainfall infiltration on some 300 acres of parks and recreation areas and the possible use of an estimated 0.78 mgd of treated wastewater effluent for irrigation. Further offset would occur from any use of holding ponds and dry wells for a portion of runoff. Any loss of recharge would proportionately affect sustainable yield of the higher-level aquifer. According to the project hydrologist, total offset could be on the order of 1.0 mgd, resulting in a loss of recharge of just over 1.0 mgd.

The impact on sustainable yield will be mitigated through conservation efforts within the development, such as low-flow water fixtures.

Existing Well Sources. Based on a westward direction of groundwater flow, the zone of groundwater contribution from the project site to the existing Board of Water Supply wells and Schofield Shaft sources probably extends little, if at all, into the project site. Therefore, any potential contaminants associated with the proposed project are not expected to have significant impacts on these drinking water sources.

According to the State of Hawaii, Department of Health (DOH), the construction of injection wells is not allowed within 1/4 mile of a drinking water well. If any injection wells (including sumps, pits, seepage pits, or drywells) are planned for the disposal of fluids, a UIC permit application must be filed with the DOH Safe Drinking Water Branch.

Water Quality. Residential development and use of the project lands are not expected to have significant impact on underlying groundwater resources because all environmental guidelines and regulations will be followed.

The project will not use injection wells to dispose of wastewater effluent. Disposal of wastewater generated by the development will be disposed of to a municipal sewer system or to a private wastewater treatment plant, conforming to Department of Health Administrative Rules, Chapter 11-62, Wastewater Systems.

Pesticide transport. Fertilizers, pesticides and herbicides are the major chemicals used on golf courses which may have potential impact on the basal aquifer. Their use is regulated by the State Department of Agriculture and the State Department of Health. All chemicals used must be biodegradable and approved by the U.S. Environmental Protection Agency. These chemicals may be subject to movement from the point of application due to runoff and infiltration during rain storms by infiltration due to excess irrigation. An assessment of the potential impacts of the golf course was conducted by William J. Walker, Ph.D. (Appendix A). Computer modeling of the offsite transport potential of chemicals which could be used on the proposed golf course under different climatic scenarios was performed and is described in the full report. The following section presents the findings of the report with respect to potential pesticide transport, both surface (runoff) and subsurface.

In general, the highest pesticide runoff occurs during the first major runoff event. Since the soils at the site have excellent permeability, the runoff potential decreases, if the pesticides and nutrients are properly applied. Infiltration at the site is good due to

the silty clay texture of the soils. Runoff is expected to be low under most conditions. However, the soils are high in aluminum and iron oxides and could erode if saturated. The presence of turf will minimize this situation. Organic matter content will aid in the adsorption process. A few of the compounds suggested for use are soluble, which tend to be more readily leached into soil and not removed via runoff.

There is a wide range of field and chemical conditions that influence potential transport of pesticides to groundwater. When persistent compounds that have high or intermediate mobility are applied to soils with minimal adsorptive capacity and shallow water tables, the leaching process may result in groundwater contamination. When these chemicals are applied to soils with high adsorptive capacity, deep water tables, and appropriate water management, the probability of pesticide leaching is significantly reduced.

Since the soils at the site are silty clays with many fine pores in the upper soil profile, hydraulic conductivity is expected to be moderate and present as manageable in relation to leaching. Soils have relatively high adsorption capacity with 1-3 percent organic matter. Both will aid in reducing subsurface leaching. Adsorption surfaces are capable of adsorbing most pesticides identified in the report.

Leaching of pesticide at the site should also be reduced compared to the present cultivation practices. Establishment of turf will provide a buffer zone for capture of leachable pesticide presumably due to the high adsorptive capacity of the turf thatch layer. Presently, soluble pesticide that reaches the bare soil is free to leach to the extent determined solely by soil physical parameters and water movement.

Urban development of the project site will eliminate any use of pesticides in the pineapple fields currently being cultivated in the project site. However, residual pesticides (DBCP and TCP) probably occur in the soils and saprolites in the project site, similar to occurrences in former pineapple fields in the Pearl Harbor region. Based upon studies there, it was concluded that such residual pesticides would not constitute a significant source for future groundwater contamination because the residual pesticides are held tightly in the sorbed state by organic material in the soils. Such studies indicated that the amount of residual pesticide capable of contributing to groundwater contamination during any one rainfall event would be on the order of one thousandth to one millionth of the amount of residual pesticide retained in the soil. Furthermore, the leachate from such a rainfall event would likely be diluted by large quantities of uncontaminated water from other sources, thus, reducing even further any impact of residual pesticides in soils on groundwater quality. Therefore, no significant leaching or contamination of the underlying groundwater aquifer is expected to occur because of the presence of residual pesticides (WRA, 1992).

Nutrient loss. Fertilizers are normally applied only to the greens, tees, fairways, and parts of the roughs of a golf course. They consist of nitrogen (N), phosphorus (P), and potassium (K). Nitrogen and phosphorus are the elements of concern regarding contamination of surface and groundwaters. However, phosphorus attaches tightly to clay soils and exhibits little movement from the point of application. Consequently, is not expected to be a problem with regard to contamination of groundwater or surface water runoff (WRA, 1992).

Nitrogen, in the form of nitrate, is not bound by clays and moves easily with water and is the only element of fertilizers which might contaminate runoff or groundwater (WRA, 1992). The leaching of fertilizer nitrogen applied to turfgrass at the site will be related to: soil texture and degree of conductivity of soil water; the amount of

subsurface movement of water; nitrogen source, formulation, rate and timing; and irrigation and rainfall. Significant leaching of nitrate will occur when soluble nitrogen is applied at a rate higher than normal on turfgrass grown on sandy soil. However, nitrogen is a relatively easily managed component at the site (Walker, 1992). It is expected that fertilization at the site will entail use of relatively insoluble (slow-release) materials for fertilization of turf.

Comparison of Impacts with Present Land Use Management

Surface water transport. Surface water transport potential will be reduced due to the presence of turfgrass as compared with the present pineapple cultivation practices. The site at present has significant gully erosion occurring in the southwesterly section of the acreage. Development of the site with a turf cover should provide an additional absorptive surface for water will increase soil stability and infiltration. If persistent chemicals are used, there is a high probability of runoff.

Pesticide transport via runoff. Pesticide transport via runoff should be reduced due to golf course development for similar reasons affecting the quantity of water leaving the site as noted above (Walker, 1992).

Pesticide transport via erosion. The establishment of turfgrass at the site will decrease the extent of erosion and particle bound pesticide at the site. Turf will cover large areas of now bare soil and overall will provide a "soil cover" for much of the site.

Pesticide leaching. Leaching of pesticide at the site should also be reduced compared to the present cultivation practices. Establishment of turf will provide a buffer zone for capture of leachable pesticide due to the high adsorptive capacity of the turf thatch layer. Presently, soluble pesticide that reaches the bare soil is free to leach to the extent determined solely by soil physical parameters and water movement.

Mitigation Measures

Water Quality. All stormwater runoff resulting from construction activities will be appropriately handled, in compliance with a National Pollutant Discharge Elimination System (NPDES) stormwater permit issued by the Department of Health. An NPDES permit is required for any discharge to waters of the State including: construction runoff, dewatering activities, hydrotesting water from new water lines or storage tanks, groundwater remediations sites, and cooling water discharges from air conditioning units.

Mitigation measures include possible detention and settling ponds within the golf course, and vegetative buffers between the urban development and the adjacent gulches. These buffers will reduce the amount of sediment and chemicals reaching the adjacent water resources through erosion and runoff. Water quality monitoring will also be considered as a further measure to minimize potential negative impacts of the project.

Strict environmental guidelines are recommended for the proposed light industrial areas. Chemical handling and usage, equipment maintenance or manufacturing activities should not be allowed over bare ground, but be confined to appropriately-designed concrete floored areas. By doing so, all spills can be contained and recovered, and intentional discharges will be discouraged.

The development should require and enforce covenants on industrial use of the land which would include the following conditions:

- a. All cleaning, repairs and maintenance of equipment involving the use of industrial liquids shall be conducted on a concrete floor, whether roofed or unroofed. The concrete floor shall be constructed so as to be able to contain any drips or spills and to provide for the recovery of any spilled liquid. Water drainage from these concrete floors, if necessary, shall pass through a separator sump before being discharged.
- b. All employees shall be informed to immediately collect and contain any industrial liquid spills on the concrete floor and should be informed against discharging or spilling any industrial liquids. Employees shall be aware to prevent any industrial liquid spills onto the bare ground.
- c. Barrels for the temporary storage of used oil or other industrial liquids shall be kept on a concrete surface. The surface shall be bermed to prevent the loss of liquid in the event of spills or leaks. The barrels shall be sealed and kept under shelter from the rain. (The Department of Labor and Industrial Relations' Occupational Safety and Health regulations, sections titled, "Housekeeping Standards" and "Storage of Flammable or Combustible Liquids," shall be followed along with the local fire code).

Pesticide transport. Surface water transport of pesticides used on the golf course can be minimized by re-grading the gullied area in the southwest portion of the property. This would present the possibility for recapture of the runoff for storage and possible reuse.

Pesticide transport via runoff could be further reduced with the implementation of an Integrated Turf Management System (TMS) program which will seek to reduce the quantity of pesticide applied, and will allow application only when needed, and will be timed to avoid predictable climatic situations that could lead to runoff. The impact assessment for the proposed golf course contains the TMS in its entirety. The following list contains selected representative management practices contained in the TMS.

- Only pesticides specifically labeled for application should be applied; and then only by properly registered, certified, and trained personnel. All pesticide use should comply strictly with local, state and federal regulations.
- Selection criteria for the type of pesticide should include consideration of the target species or disease, pesticide characteristics, and site characteristics.
- Reduce frequency of pesticides applied to turfgrass.
- Select less toxic, less mobile, and less persistent pesticides, or use alternate control strategies.
- Control the timing and amount of a pesticide application in relation to local environmental conditions, especially rainfall to decrease potential for offsite movement and degradation characteristics.

The Department of Health recommends 12 conditions applicable to all new golf course development. The conditions are recommended to assure that environmental quality is preserved and enhanced as it relates to human health and the protection of sensitive ecosystems. The applicant will work with the Department of Health to ensure that the proposed golf course and its management meets the necessary requirements.

Nutrient transport. The TMS also includes critical principles of nutrient management at the site. A representative sample of recommended practices follows:

- Use minimal rates of nitrogen and phosphorus to maintain nutrient levels needed to sustain turfgrass quality.
- Improvement in turfgrass uptake efficiency
- Application of nutrients at the times and amounts commensurate with turfgrass requirements. The optimum time of application depends on turfgrass species and cultivar, climate, soil conditions, and chemical formulation of the fertilizer.
- Management of traffic on golf course to minimize surface runoff, soil compaction, pest infestations, and the need for frequent fertilizer and pesticide applications.
- Use of slow release nitrogen fertilizers and nitrification inhibitors to reduce the environmental impacts resulting from losses of nitrates.

4.5 Flora

Existing Conditions

Vegetation. Evangeline J. Funk, Ph.D. performed a botanical survey of the subject property. The report is summarized below and included as Appendix C.

The survey found that there are essentially two vegetation types on the site, Agricultural Fields and Mixed Introduced Vegetation.

Agricultural fields are, the most important vegetation type found on this site. The crop is pineapple and the fields are well tended and the usual fringe community of ruderal (weed) vegetation is absent.

Mixed Introduced Vegetation is found on the steep slopes leading to Wahiawa Reservoir and along both sides of Poamoho Stream. It is a rich mosaic of trees, vines, grasses and forbs.

Around Wahiawa Reservoir where, because of the low rainfall (during the field study), there are wide swaths of exposed shoreline, lacustrine or lake wetland vegetation is now evident. This is regarded as temporary and will disappear as soon as more normal weather conditions return.

Three individuals of the endemic Hawaiian plant *Santalum freycinerianum* were found northwest of Wilikina Drive at the upper rim of Kaukonahua Stream. The remaining endemic and indigenous plants, pukiawe (*Styphelia tameiameia* Muell.), 'ulei (*Osteomeles anthyllidifolia* Sm.), huehue vine (*Cocculus trilobus* (Thunb.) DC), moa (*Psilotum nudum* (L.) Griseb), kou (*Cordia subcordata* Lam.), kukui (*Aleurites moluccana* (L.) Willd.) and ti (*Cordyline fruticosa* (L.) A. Chev) are all found along the rim of Poamoho Stream.

Though not located on this survey, two additional taxa have been reported as occurring in the gulches adjacent to the development area: 'a`li`i (*Dodonaea viscosa* Jacq.) and kilau (*Pteridium aquilium* (L.) var. *decompositum* (Gaud.) Tryon). The 'a`li`i is a pantropical species which, in the Hawaiian Islands is found on the leeward slopes of Kauai, Oahu, Molokai, Maui and Hawaii from the coastal dunes to the subalpine shrublands. The kilau, or common bracken fern, is regarded as a common part of the plant community from the 200 meter elevation to the mesic subalpine shrublands above 2100 meters. Both these are widely distributed and common taxa.

Impacts

No proposed or listed U.S. Fish & Wildlife Service or State of Hawaii listed plant taxa were found during this study. Introduced plants make up the vegetation of this site and as such should not prevent future development of the area.

4.6 Fauna

Phillip L. Bruner performed a survey of the avifauna and feral mammals at the subject property in July 1992. The findings of the survey are summarized below and the full report is included as Appendix D.

Existing Conditions

No endemic land birds were recorded on the survey. The Short-eared Owl or Pueo (*Asio flammeus sandwichensis*) is the only endemic land bird that may occasionally occur in this area. Pueo are listed as an endangered species on Oahu by the State of Hawaii Division of Forestry and Wildlife. This species forages in pastures and agricultural fields as well as forested habitats.

Two species of endemic and endangered waterbirds were recorded on the survey: American Coot (*Fulica americana alai*) and Common Moorhen (*Gallinula chloropus sandvicensis*). Three coot and one moorhen were observed on Wahiawa Reservoir along the southern edge of the property. Two other potential native waterbirds, the Black-necked Stilt (*Himantopus mexicanus knudseni*) and Hawaiian Duck or Koloa (*Anas syvilliana*) were not observed but likely occur in and around Wahiawa Reservoir. The number of waterbirds found on this survey were relatively few given the amount of available wetland habitat. A more exhaustive search of the shoreline of Wahiawa Reservoir by boat might reveal additional birds.

Migratory shore birds winter in Hawaii between the months of August through May. Two species of migratory shorebirds were recorded on the survey: Pacific Golden Plover (*Pluvialis fulva*) and Ruddy Turnstone (*Arenaria interpres*). Only six plover were recorded on the survey. At the time of the survey (July), most plover are on their arctic breeding grounds.

Two ruddy turnstone, a common migrant that utilizes lawns and fields as well as shoreline habitat, were observed on the property. One other potential shorebird that may occur along the Wahiawa Reservoir shoreline is the Wandering Tattler (*Heteroscelus incanus*). Migratory ducks such as Northern Pintail (*Anas acuta*) and Northern Shoveler (*Anas clypeata*) are common winter migrants to Hawaii. It would not be unusual to find these birds at Wahiawa Reservoir during the winter months.

A total of three Black-crowned Night Heron (*Nycticorax nycticorax*) were tallied over the course of the survey. This species is the only native waterbird not listed as endangered. Night heron forage in a wide variety of wetlands from streams and ponds to ditches and flooded fields.

No nesting seabirds were observed on the property. The presence of predators such as cats, dogs and mongoose make this site unsuitable for nesting or roosting seabirds. Great Frigatebird (*Fregata minor*) are known to take fresh drinking water from ponds and may utilize Wahiawa Reservoir for this purpose.

A total of 17 species of exotic birds were recorded during the field survey. The most abundant birds were: Japanese White-eye (*Zosterops japonicus*), Zebra Dove (*Geopelia striata*), Red-crested Cardinal (*Paroaria coronata*), Red-vented Bulbul (*Lonchura punctulata*) and Chestnut Mannikin (*Lonchura malacca*).

The following exotic species may also occur at this site: Common Barn Owl (*Tyto alba*), Northern Mockingbird (*Mimus polyglottos*), Eurasian Skylark (*Alauda arvensis*), Hwamei (*Garrulax canorus*), Red Avadavat (*Amandava amandava*) and Japanese Bush-warbler (*Cettia diphone*).

Small Indian Mongoose (*Herpestes auro-punctatus*) and feral cats were observed. Records of the endemic and endangered Hawaiian Hoary Bat (*Lasiurus cinereus semotus*) are sketchy, however, the species has been reported from Oahu. No bats were found on this survey.

For the most part Wahiawa Reservoir's shoreline is exposed and does not provide the cover of emergent vegetation that waterbirds prefer. However, there are some patches of suitable wetland habitat. Disturbance by fishermen also limits the usefulness of this area for waterbirds. The Oahu population of the endemic Hawaiian Owl or Pueo is listed by the State of Hawaii as an endangered species. This bird was not recorded on the survey. Pueo, however, do forage in agricultural lands and may on occasion occur in this area.

The numbers of migratory shorebirds recorded on the survey were low which is to be expected given the time of year. It is likely that much larger numbers would be found during the winter months.

The property supports the typical array of exotic birds one would expect in this type of environment on Oahu. Finches were especially abundant due to the availability of grass seed along the roadsides.

Feral mammal populations were comparable with similar habitat surveyed elsewhere on Oahu. The Hawaiian Hoary Bat was not recorded at this site but is known on Oahu. This species often forages over ponds and bays. Thus, Wahiawa Reservoir might be a location one may find this species.

The most valuable wildlife habitat at this site are the wetlands associated with Wahiawa Reservoir. They provide feeding and resting areas for endemic and migratory waterbirds.

Impacts

The proposed park fronting Wahiawa Reservoir and the ridgeline park along a portion of Poamoho Gulch should provide a sufficient buffer between these habitats and the proposed developments. No development is proposed for the wetlands associated with Wahiawa Reservoir.

The proposed commercial/light industrial project located south of Kamehameha Highway and adjoining the parkland that fronts Wahiawa Reservoir may pose a problem if industrial wastes such as oil or other toxic chemicals move from this upslope location into Wahiawa Reservoir.

The proposed golf course will provide habitat, beyond that which presently occurs on the property, for migratory birds such as Pacific Golden Plover and Ruddy Turnstone.

These two species readily forage on open lawns. Drainage from the golf course has the potential to carry herbicides and pesticides into the lake.

Mitigation Measures

Strict environmental guidelines governing the handling and disposal of chemicals will be followed at the proposed light industrial area to avoid impacts to Wahiawa Reservoir.

The integrated turfgrass management system for the proposed golf course (in Appendix A) includes principles and practices to minimize the surface transport of pesticides and nutrients from the point of application.

4.7 Air Quality

An air quality impact study was prepared by J.W. Morrow, Environmental Management Consultant. The report is summarized below and attached as Appendix E.

Existing Conditions

Although the State conducts no routine monitoring in the project area, it is believed that all state and federal standards are being met in the project area due to the lack of major air pollution source activity.

The two principal existing sources in the area are motor vehicle traffic and agricultural field burning. Both sources have typically short-term impacts with the former producing elevated carbon monoxide (CO) levels during peak traffic hours and the latter producing high particulate matter concentrations during individual field burns.

Onsite Carbon Monoxide Sampling. Air sampling was conducted at two sites predicted to experience increases in traffic congestion in the future: Kunia Road at Wilikina Drive and Kamehameha Highway at California Avenue.

Short-Term Impacts

The principal source of short-term air quality impact will be construction activity. Construction vehicle activity will increase automotive pollutant concentrations along the principal access roads as well as in the vicinity of the project site itself. During off-peak hours, the additional construction vehicle traffic should not exceed road capacities although the presence of large trucks can reduce a roadway's capacity as well as lower average travel speeds thereby contributing to additional air pollution emissions.

The site preparation and earth moving will create particulate emissions as will building and on-site road construction. Construction vehicle movement on unpaved on-site roads will also generate particulate emissions.

The potential for fugitive dust during the drier months due to the high silt content of the soils makes adequate dust control measures important during those times. Dust control could be accomplished, for example, through frequent watering of unpaved roads and areas of exposed soil. The Environmental Protection Agency (EPA) estimates that twice daily watering can reduce fugitive dust emissions by as much as 50 percent.

In addition to the on-site impacts attributable to construction activity, there will also be offsite impacts due to the operation of concrete batching plants needed for construction.

Long-Term Impacts

After the project is constructed, long-term air quality impacts will result from mobile and off-site stationary sources such as motor vehicles, electrical generation, solid waste disposal, wastewater treatment, agricultural burning, and pesticide use. The following section describes likely project-related air quality impacts and possible mitigation measures.

Mobile Source Impact. To evaluate the potential long-term air quality impact of increased roadway traffic associated with a project such as this, computerized emission and atmospheric dispersal models can be used to estimate concentrations of pollutants. Carbon monoxide comprises the largest fraction of automotive emissions, and has a relatively long half-life in the atmosphere, and thus is normally used for projects involving motor vehicles as the principal air pollution source.

A microscale screening analysis was performed for three intersections: Wilikina Drive/Kunia Road, Kamehameha Highway/California Avenue and Wilikina Drive/Kamananui Road. These were intended to be representative of the "worst case" traffic and air quality impacts.

Maximum one-hour carbon monoxide (CO) concentrations were computed for the peak traffic hours. The results indicate compliance with federal and state one-hour CO standards at all locations under both current and projected peak traffic conditions. The general trend is toward a decline in near-roadway CO concentrations without the project, but little change with the project.

Compliance with the federal and state 8-hour standards can be determined by applying an EPA-recommended "persistence" factor. In this case, both the existing and 2010 "with project" results indicate possible exceedances of the state 8-hour standards within close proximity (<10 meters) to the Kamehameha Highway/California Avenue intersection. The 2010 without project results are near, but below the state's 8-hour standards. The federal 8-hour air quality standards would be met with or without the project.

Electrical Generation and Solid Waste Disposal. Based on average consumption by residential and commercial users, an annual electrical demand of 56 million kilowatt hours is estimated for the project. Estimates of annual emissions resulting from the generation electrical power by means of fuel oil-firing to meet this demand were computed based on EPA emissions factors.

The refuse generated by the residents of the 3,100 new dwellings as well as the commercial establishments and public facilities in the project will require disposal. Most of the refuse will be pre-processed and burned at the city's resource recovery facility (HPOWER) at Campbell Industrial Park, leaving less mass to be landfilled. This facility was originally designed to handle most of Oahu's domestic refuse (1,800 tons/day).

The emissions estimates for electrical generation and solid waste disposal may be compared to the latest available county emissions inventory (see Appendix E) in order to provide some perspective on their significance. The project's contribution to county emissions appears to be less than 0.6%.

Agricultural Burning. The development of the project will eliminate field burning on the site itself thereby resulting in a positive air quality impact. Future residents, however, may infrequently be exposed to the smoke from such fires on the remaining 1,300 acres which will continue in agriculture. These fields are north of the project site and thus generally upwind.

Pesticide Use. Pesticides are routinely required at golf courses to maintain fairways and greens. If properly used in accordance with label instructions, the chemicals contained in the pesticides should present no hazard to the properties or owners of the properties adjoining the proposed golf course.

The potential for significant airborne concentrations of these chemicals is relatively slight when one considers the dilution factor in application solutions and the coarse spray that is normally used to assure adequate coverage in the desired area and avoidance of drift. Should a user improperly apply these chemicals under wind conditions which would contribute to drift, there would be an increased possibility of downwind exposure of property and people.

Wastewater Treatment Facility. It may be necessary to construct a wastewater treatment facility (WWTF) to serve the development. WWTF are potential sources of air pollution, including viable and nonviable particles, odors, and gases, depending on the specific plant design.

Mitigation Measures

Construction impacts. The following measures will help reduce the short-term impacts associated with construction activities:

- compliance with state/county dust control requirements
- covers for open trucks transporting dusty materials
- frequent watering of exposed soil areas
- soonest possible landscaping of exposed soil areas
- concrete and asphalt plants in compliance with Department of Health permits

Motor vehicle activity. The types of measures that could help reduce the predicted traffic-related impacts include:

- additional highway improvements to increase capacity
- increased bus service to the project area
- encouragement of car-pooling
- limited parking facilities to encourage use of public transportation

Electrical generation. Measures that will reduce offsite emissions at electrical power plants and save energy include the following recommendations of the State Department of Business, Economic Development and Tourism:

- east/west orientation of streets for the long dimensions of houses to minimize heat gains in the morning and afternoon.
- adequate system of walkways and bikeways to encourage walking and bicycling between home, school, park and commercial areas.
- selection and placement of landscape materials to provide shading for minimization of heat gains in the morning and afternoon.
- maximize shading of paved areas by trees, awnings, trellises, roofing or houses.

- provide enclosed yards where clotheslines can be used.
- include radiant barriers in attics.
- install heat pump water heaters or solar water heaters.
- install fluorescent lights with high efficiency ballasts.

Agricultural burning. Burning should be limited to times when wind direction is not towards the most heavily populated areas and when atmospheric conditions favor rise and mixing of the plume.

Pesticide use. The following measures will help reduce any possible air quality impacts associated with pesticide use:

- full compliance with label use instructions
- use of integrated pest management control measures
- minimize pesticide use
- maximize use of non-chemical pest control measures
- use of low-toxicity/nonpersistent chemicals

Solid waste disposal. The following measures will help reduce emissions resulting from burning of solid waste:

- provide a recycling program for the project
- provide a composting facility for the project

Wastewater Treatment Facility. Any WWTF should be properly designed with air pollution controls appropriate for the particular plant design. Well-trained operators adhering to standard operating procedures will also insure minimal impact. The suggested site on the west side of Wilikina Drive is downwind of the development in terms of prevailing trade winds thus further reducing possible impacts.

4.8 Noise Quality

An noise quality impact study was prepared by Darby & Associates. The report is summarized below and attached as Appendix F.

Existing Acoustical Environment

Project site. The proposed project site currently experiences relatively low noise levels. The existing background noise level is between 43 and 45 dBA within the project site, which is typical of rural or semi-rural areas. The dominant noise sources include wind, traffic movements, and occasional aircraft fly-overs. The occasional aircraft included both fixed and rotary wing aircraft and the maximum sound levels due to the aircraft ranged from 63 to 75 dBA. An additional noise source within the project site includes the periodic pineapple growing operations, which may include land preparation, fruit harvesting, truck transport, etc.

Project vicinity. The pineapple fields to the north and east of the proposed project site experience an acoustical environment similar to the project site with wind, aircraft, traffic and pineapple growing operations being the dominant noise sources. The Wahiawa Reservoir forms the south border between the project site and Wahiawa town. The portion of Wahiawa town nearest the project site is comprised mostly of residential areas, however, a small portion bordering the project site is zoned General Industrial (I-2). The residential areas in Wahiawa town, which border the project site experience

a background noise level of approximately 44 dBA, while the Wahiawa Industrial Center experiences a background noise level of approximately 48 dBA.

Schofield Barracks borders the project site to the southwest and the area nearest the project site experiences a background noise of approximately 50 dBA due primarily to traffic along Wilikina Drive.

Potential Impacts

Noise impacts may be due to the project and are experienced by the project. This section describes both types of impacts.

Additional traffic generated by the project. The projected future traffic noise level increases at the locations assessed in the study during peak traffic hours due to additional traffic generated by the project were less than approximately 3.0 dBA. In general, a 3.0 dBA increase in sound pressure level corresponds to a small perceptible change in apparent loudness. Therefore, the traffic noise level increase due to project generated traffic should minimally impact noise sensitive locations in the project site vicinity.

Noise generated by activities within the project site. Activities in the proposed industrial, commercial, and civic areas may be potential sources of noise affecting nearby noise sensitive areas. Noise from these sources may cause annoyance and even exceed the DOH noise limits if not properly controlled. Such noise sources may include activities within industrial facilities, refuse collection, delivery of materials, vehicular traffic, mechanical equipment associated with commercial or industrial buildings, or parking lot activity.

Construction noise. Development of the project will involve excavation, grading and the construction of infrastructure and buildings. The various construction phases of a development project may generate significant amounts of noise. The actual amounts are dependent upon the methods employed during each stage of the construction process. Earthmoving equipment, such as bulldozers and diesel-powered trucks, will probably be the loudest equipment used during construction.

In cases where construction noise exceeds, or is expected to exceed, the DOH's "allowable" property line limits, a permit must be obtained from the DOH to allow the operations of vehicles and equipment which emit noise levels in excess of the "allowable" limits.

In addition, construction equipment and on-site vehicles or devices requiring an exhaust of gas or air must be equipped with mufflers. Construction vehicles using traffic-ways must satisfy DOH vehicular noise requirements.

Blasting, if required, could also produce noise impacts. However, with appropriate blast design techniques, the noise from blasting can be controlled within acceptable limits at the closest noise sensitive locations. At this stage in the development process, no estimate can be made as to the extent of blasting that may be required for construction. It should be noted that the U.S. SCS Soil Survey indicates most of the site consists of deep soils/subsoils and that most of the site has been farmed in pineapple. Rock may be encountered in the site preparation process but it is not expected to be widespread.

Aircraft noise. The proposed project site is approximately one mile from the Wheeler Air Force Base (AFB) and within two of the installation's flight tracks. The noise levels associated with the aircraft fly-overs range from 65 to 72 dBA. Although at times audible, the aircraft operations are fairly infrequent and, therefore, aircraft noise should not significantly impact the proposed development.

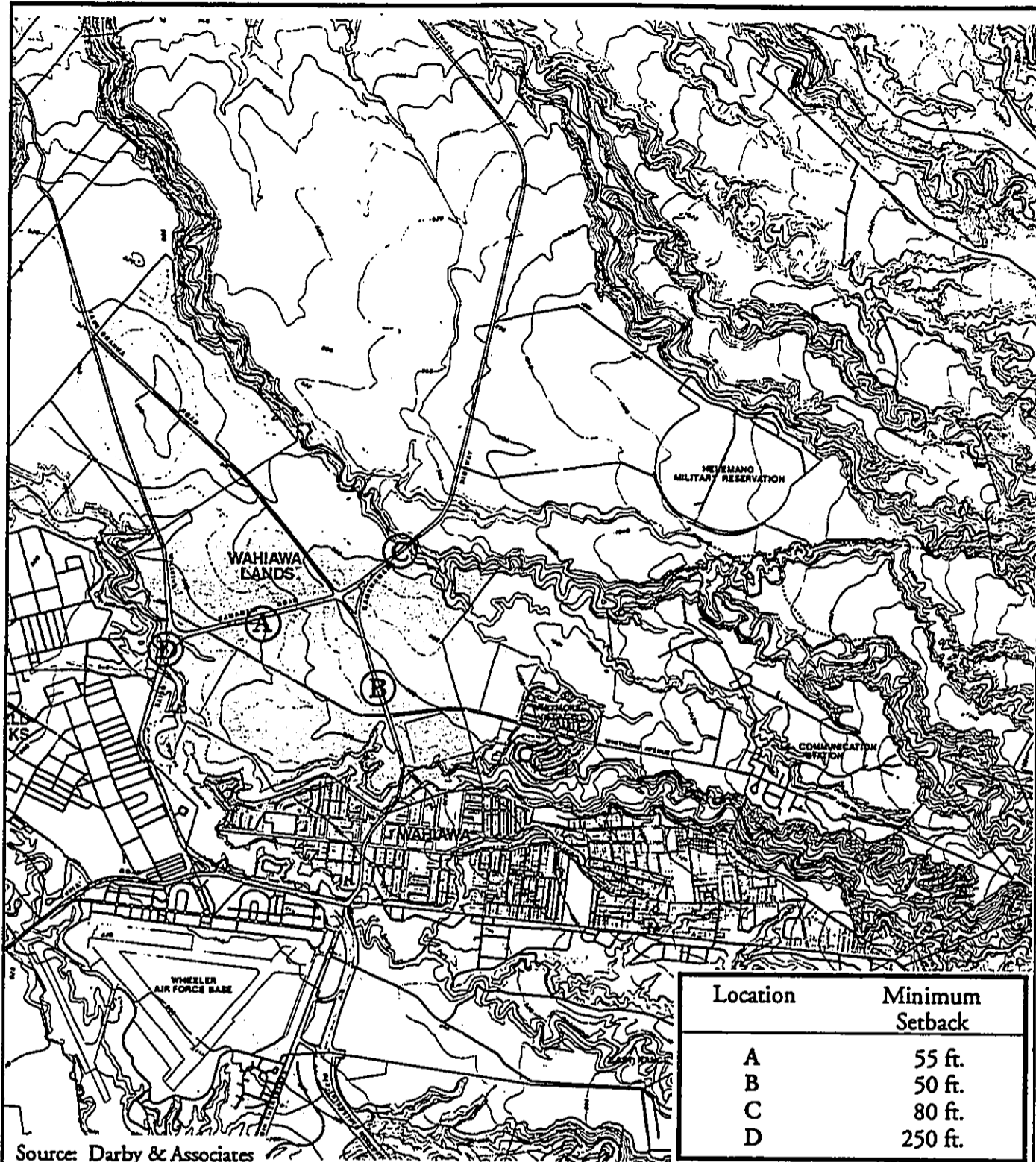
Military training noise. The Schofield Barracks cantonment area encompasses the Central Range and McCarthy Flats training areas. The Central Range training area, located less than two miles from the western edge of the proposal supports small arms qualifications. The McCarthy Flats training area, located about two miles west of the project area supports small arms qualifications, artillery and rotor wing operations. Small arms ranges are utilized almost every day. Noise generated by small arms training will have minimal impact to the development. In contrast, artillery and rotor wing operations are conducted infrequently, but noise levels will be significantly higher than small arms training during these events. Noise impacts will be predominantly to the western edge of the project. Full disclosure of the Army's training and noise levels associated with that training should be made available to all prospective purchasers.

Traffic noise. The Federal Highway Administration (FHWA) has specified a design goal of maximum hourly equivalent sound levels (Leq) of 67 dBA for traffic noise exposure for land uses such as picnic and recreation areas, parks, residences, motels, hotels, schools, churches, libraries and hospitals. The proposed residential areas closest to Kamananui Road, Kamehameha Highway, and Wilikina Drive will be exposed to predicted (future 2010) hourly equivalent continuous noise levels, Leq, of approximately 67 dBA during peak hours at the various distances from each roadway listed in Figure 12.

Pineapple growing activities. Pineapple growing activities will continue on the lands bordering the area of application to the north, east and west. These operations may be audible at nearby residential areas, particularly in the proposed single-family residential area along Kamananui Road, directly adjacent to the pineapple fields. However, pineapple operations are periodic and, therefore, should not significantly impact the proposed project.

Golf course operations. Potential noise sources at the proposed golf course include the mechanical equipment at the clubhouse, the public address system, and ground maintenance activities. Single-family residential areas are proposed within approximately 125 feet of the golf clubhouse. If noise sources at and near the clubhouse (e.g. golf cart chargers, pumps, refrigeration and air-conditioning equipment, exhaust fans, and other stationary equipment) are not controlled properly, they could impact the closest proposed homes. Additionally, a public address system near the clubhouse could also impact nearby residential areas. Public address speakers should be oriented such that announcements are not projected directly into the nearby residential areas. Ground maintenance activities are transient about the golf course and occur for short periods. The ground maintenance equipment, therefore, should not be objectionable.

Wahiawa Industrial Center. The project site is bordered on the southeast, across the Wahiawa Reservoir, by the Wahiawa Industrial Center, which is zoned General Industrial (I-2). The proposed development includes a commercial/industrial mixed use development planned nearest the Wahiawa Industrial Center. Therefore, due to this buffering activity, the existing industrial center should only minimally impact noise sensitive locations within the project site.



Minimum Setbacks (FHWA Traffic Noise Exposure Limits)

Figure: 12

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Prepared By: Helber Hastert & Fee, Planners



Not to Scale

Mitigation Measures

Noise generated by activities within the project site. The owners of all potential noise sources within the project site must implement measures so that DOH noise regulations are met. These noise regulations can be met for stationary equipment by providing mitigation where required, e.g. acoustic enclosures, noise barrier walls, etc.

Construction noise. Construction noise will be monitored regularly and will adhere to DOH standards. If a DOH permit for operation of vehicles expected to exceed "allowable" property line limits is required, the following conditions will be met:

"No permit shall allow construction activities creating excessive noise...before 7:00 am and after 6:00 pm of the same day."

"No permit shall allow construction activities which emit noise in excess of 95 dBA...except between 9:00 am and 5:30 pm of the same day."

"No permit shall allow construction activities which exceed the allowable noise levels on Sundays and on...(certain) holidays. Activities exceeding 95 dBA shall (also) be prohibited on Saturdays."

Traffic noise. If the residential home setbacks as shown in Figure 12 cannot be achieved, other noise mitigative measures should be implemented.

Feasible noise mitigation would include sound barriers along the roadways (such as walls or landscaped earth berms, which must be high enough to clearly block line-of-sight to the traffic), and appropriate building orientation and design, such as:

- Avoiding the use of multi-story homes in these areas, and orienting the buildings so that bedroom windows do not directly face the road.
- Restricting the use of jalousie windows to non-critical areas, such as bathrooms, laundries, etc.
- Air-conditioning noise sensitive areas within the homes, such as bedrooms, so that windows may be kept closed for noise reduction purposes.
- Providing sound absorptive treatment in bedrooms to reduce build-up in the reverberant sound field.

4.9 Scenic and Visual Resources

Existing Conditions

At present, the area of application is cultivated in pineapple, with the exception of Poamoho Camp and the triangular parcel at the intersection of Kamehameha Highway and Kamananui Road. Views of the Waianae and Koolau Mountain Ranges are unobstructed from Whitmore Avenue and the portions of Kamehameha Highway within the project area.

Impacts

Development of the proposed project will alter the visual resources along Whitmore Avenue and Kamehameha Highway as open space diminishes and is replaced by patterns typical of residential developments.

A view corridor study of the impacts of the development on views from the Kukaniloko State Historic Monument was prepared at the request of the DLNR State Parks Division. This study is included as Appendix N and described in Section 4.10 Historical and Archaeological Resources.

Mitigation Measures

A significant amount of open space will be preserved in the forms of a golf course and various parks. The development will provide access to the northern edge of Wahiawa Reservoir and Kaukonahua Stream and to the ridge above Poamoho Gulch through public parks and open space. The siting of golf fairways along Kamehameha Highway will contribute to an open greenbelt along this corridor. The major cross-axis of the town center is oriented towards Mount Kaala, Kolekole Pass, and major topographic features of the Waianae Mountain Range. Structure heights within the project will be in the one- to two-story range with possible three-story buildings located within the town center. All development will be well setback from the major public thoroughfares. The setbacks will be heavily landscaped and/or will consist of golf course fairways.

4.10 Historical and Archaeological Resources

An archaeological inventory survey of the 2,200-acre Galbraith Trust property area was conducted by Paul H. Rosendahl, Ph.D., Inc. The findings of the report are summarized below, and the full report can be found in Appendix G.

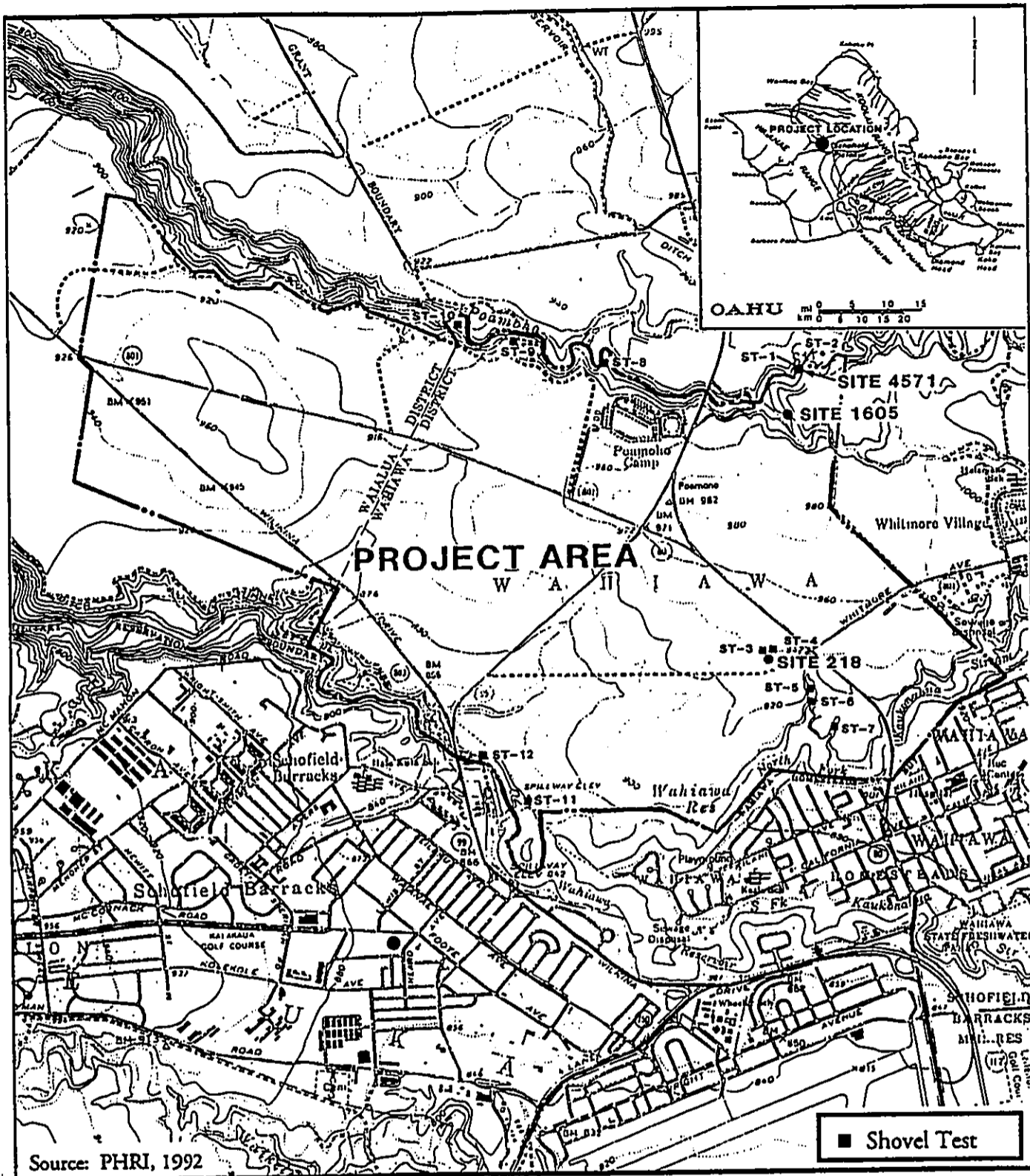
The purpose of the inventory survey was to identify all sites and features of potential archaeological significance present in the project area. An inventory survey, in general, comprises an initial level of archaeological investigation. It basically determines the presence or absence of archaeological resources within an area, and indicates the general nature and variety of the resources, and their general distribution and density. It also permits a general significance assessment of the resources, and facilitates formulation of realistic recommendations and estimates for such further work as might be necessary or appropriate.

The project area has been greatly disturbed and this disturbance has undoubtedly destroyed numerous sites once in this area. According to historical documentary research, a substantial prehistoric agricultural complex once existed in the vicinity. The presence of Kukaniloko Birthstones and the former presence of several *heiau* in the area indicate this area was once associated with the *alii*.

Surface Findings

Two archaeological sites were identified during the inventory survey. One is a retaining wall (Site 4571) and the other is Kukaniloko Birthstones (Site 218). Site 219, Hoolonopahu Heiau, was originally adjacent to Kukaniloko, but the site was destroyed during modification of the land for pineapple cultivation. Shovel tests conducted in the presumed vicinity of the site revealed no subsurface cultural remains. Site 1605, a *heiau* previously identified at the bottom of Poamoho Gulch, was not located during the current project. No portable remains of any kind were recovered during the surface survey. Figure 13 shows the locations of the archaeological sites.

Site 218. Site 218 is about 200 meters west of the intersection of Kamehameha Highway and Whitmore Avenue. The State of Hawaii, Department of Land and Natural Resources (DLNR), State Parks Division recently acquired a 5-acre parcel



Site and Shovel Test Locations

Figure: 13

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Not to Scale

containing the birthstones, and thus, the site is not in the area of application. The State Parks Division is currently seeking a resubdivision of the 5-acre parcel. The parcel is encircled with coconut and eucalyptus trees.

Site 218 consists of about 180 waterworn basalt rocks, 0.4 to over 2.0 meters in diameter. The primary "birthing stone" is a large basalt rock measuring 1.01 meters long, 0.65 meters wide, and 0.41 meters high. In the center of this rock is a smooth, bowl-shaped depression about 0.5 meters in diameter by 0.2 meters in depth. Several rocks containing petroglyphs were noted at Site 218.

Kukaniloko is considered to be one of the most sacred places on the island of Oahu. It is thought to be one of two famous places in the islands for the birth of the *alii*. According to documentation on Kukaniloko by Abraham Fornander (cited in PHRI, 1992), the site first belonged to the chief *Nanakaoko* and his wife *Kahihiokalani*. According to Fornander, when a child was born at Kukaniloko, it was quickly taken within the nearby temple of Hoolonopahu where 48 chiefs were assembled. These chiefs then performed the ceremonial cutting of the navel cord. The sacred drum of *Haweia* was beaten, which signified that a chief was born. The site was destroyed by pineapple cultivation near the turn of the century and no information concerning the heiau's size, construction and precise location are available.

The presence of sacred sites and their associated oral traditions are a sign that at one time there must have been a sizable community nearby. In addition to being a birthplace of the *alii*, Kukaniloko was thought to have also been a *puuhonua*, where a person who killed another person or committed another serious offense could take refuge.

Site 4571. Site 4571 is a retaining wall just outside the northeast corner of the project area, at the bottom of Poamoho Stream Gulch. The wall is on the north bank of Poamoho Stream, and consists of a single course of basalt stones stacked against the stream bank. The wall is constructed of waterworn basalt rocks 0.1-1.25 meters in diameter. Most of the wall has collapsed into the stream bed. The intact portion of the wall is about 3.0 meters wide. Site 4571 is not located in the area of application.

Subsurface Findings

Twelve shovel tests were excavated throughout the project area. No cultural materials were documented in any of the shovel tests. Site 218 was not shovel tested due to its preserve status. Figure 13 shows the locations of the shovel tests.

Site Significance Assessment

The inventory survey was carried out in accordance with the standards for inventory-level survey recommended by the Department of Land and Natural Resources, State Historic Preservation Division (DLNR-SHPD). The significance of all archaeological remains identified in the project area was assessed in terms of (a) the National Register criteria contained in the Code of Federal Regulations (36 CFR Part 60), and (b) the criteria for evaluation of traditional cultural values prepared by the national Advisory Council on Historic Preservation. The DLNR-SHPD uses these criteria to evaluate eligibility for both the Hawaii State and National Registers of Historic Places.

The significance of cultural remains can be defined in terms of potential scientific research, interpretive and/or cultural value. Based on the above federal criteria, Sites 218 and 4571 are both assessed as significant for information content. In addition, Site

218 is assessed as significant for cultural value, and as a representative example of a site type. Preservation "as is" is recommended for Site 218. Due to the lack of subsurface deposits at Site 4571, no further work is recommended for Site 4571.

The archaeological consultants also evaluated the general significance of sites in terms of three PHRI Cultural Resource Management (CRM) value modes--scientific research, interpretive, and/or cultural values. "Research value" refers to the potential of archaeological resources for producing information useful in the understanding of cultural history, past lifeways, and cultural processes at the local, regional, and interregional levels of organization. "Interpretive value" refers to the potential of archaeological resources for public education and recreation. "Cultural value", within the framework for significance evaluation used in the report, refers to the potential of archaeological resources for the preservation and promotion of cultural and ethnic identity and values. Based on the CRM value modes, Site 218 is assessed as highly significant for cultural value, research value, and interpretive value. Site 4571 is assessed as having low cultural value, research value and interpretive value.

Impacts

No development is proposed for the State-owned 5-acre parcel containing Kukaniloko (Site 218) or in Poamoho Gulch (where Site 4571 is located).

The DLNR Division of State Parks is responsible for the long-term preservation and interpretive display for the site. In comments addressing the proposed development, the Division of State Parks stated that the present 5-acre Kukaniloko park site and associated buffer and access road were inadequate and expressed the following concerns about adjacent development:

- Adequate buffers and development setbacks to maintain the historical and cultural setting of the site.
- Low-rise development to maintain the visual corridors around the historic site.
- Access route to the park site that will provide an adequate setback for the roadway and parking lot at the park site.
- Insure public access to the site while considering potential security measures to assist in site management and preservation.

DLNR Division of State Parks (DSP) requested an analysis of view corridors from the State-owned Kukaniloko Birthstones State Monument to determine what, if any, visual impacts would be expected from the implementation of the proposed Wahiawa Lands Master Plan, and what, if any, mitigation would be required to mitigate visual impacts (DLNR letter dated March 12, 1993). The DSP request, and other concerns raised at community meetings, indicated a need to analyze potential impacts the proposed Wahiawa Lands development might have on view corridors from the State Monument. The view corridor analysis indicates that views of the Waianae and Koolau Ranges from Kukaniloko will not be significantly impacted by project development. Existing views of Kolekole Pass and Mount Kaala will not be impaired. Closer range views of the existing pineapple fields will be changed to urban uses. These views may be mitigated by landscaped screening at the periphery of the proposed 11-acre park and/or by screening the nearby land uses.

The findings of the view corridor study are summarized below. The full document is included as Appendix N.

The following table summarizes the various attributes discussed in the view corridor siteline analysis.

<u>Sight Line</u>	<u>Azimuth</u>	<u>View Content (near/far)</u>	<u>Degree Intrusion</u>	<u>Screen Height (feet)</u>	<u>Closest Structure (feet) (1)</u>
1	SE	Wilson Res/ Open Horiz.	0.0	7.4	550/310
2	SW	Wilson Res/ Waianae Rnge	0.0	11.0	2050/1600
3	NW	Open Horiz.	0.2	3.5	1100/850
4	NNW	Open Horiz.	0.0	2.2	2300/2030
5	NNE	Whitmore/ Koolau Rnge	0.3	7.0 (2)	930/600
6	NE	Whitmore/ Koolau Rng	0.3	15.0 (3)	1300/730

Notes:

- (1) Distance from: 0.5-ac. Park/11-ac. Park
- (2) 5.5-foot screen needed for existing conditions
- (3) 12.6-foot screen needed for existing conditions

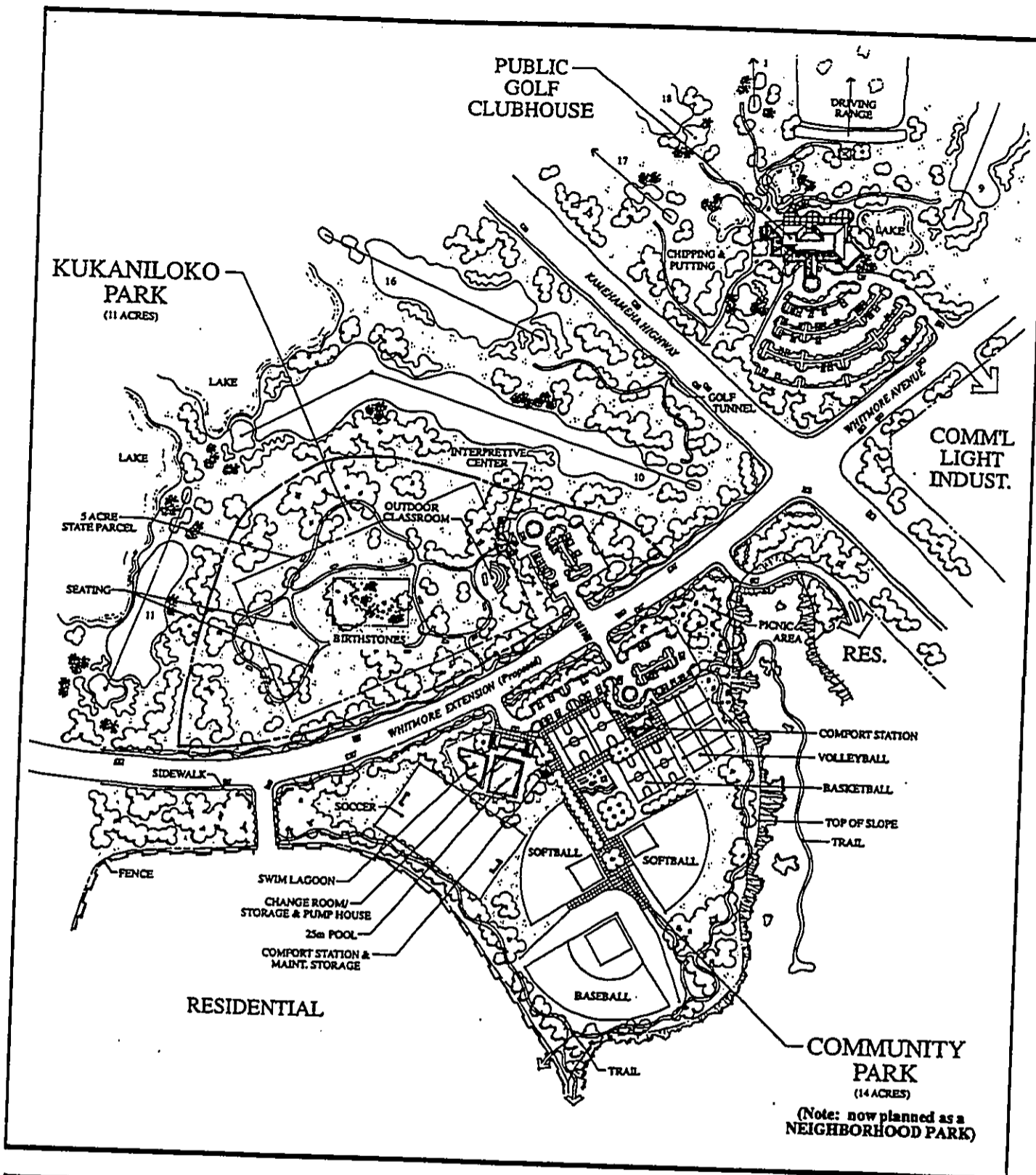
Based on the sightline analysis, potential impacts can be summarized as follows:

- Distant views of the Waianae and Koolau Mountain Ranges will not be adversely impacted by the proposed development.
- Approximately 0.2 degrees of open horizon would be obscured in the northwest direction.
- Approximately 0.3 degrees of the lower Koolau Range would be obscured in the north-northwest direction.
- Local views to the nearby pineapple fields and to the trees along Wilson Reservoir would be obscured by proposed development.

Mitigation Measures

The applicant proposes to keep the area surrounding the Kukaniloko Birthstones as passive and low-density as possible to provide an environment which recognizes and respect the historical and cultural significance of the site. The applicant seeks to achieve this by the addition of a passive park surrounding the north side of the site, the preservation of open space both north and south of the site through golf course fairways and a neighborhood park, and buffering setbacks between the site and the proposed single-family development to the south.

The applicant has prepared a preliminary illustrative plan of the land uses in the vicinity of Kukaniloko proposed in the development as well as a possible scheme for the Historic Park (Figure 13A). The plan provides a depiction of the nature of the surrounding activities and how they are spatially related to the birthstones site.




Kukaniloko Park

Figure: 13A

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 Not to Scale

The proposed plan provides an additional six acres for a total of 11 acres dedicated to Kukaniloko. Golf fairways totalling an additional 40 to 50 acres are located to the north, east and west of the park, and a proposed 10-acre neighborhood park is located to the south. The nearest planned homes are located about 600 feet away in a southwest direction across the main project access road. Other residential areas are located beyond 1,100 feet away (fifth of a mile). In total, almost 100 acres of park and public open space uses would surround the site in the proposed plan. The DLNR Historic Preservation Division and State Parks Division, and the project archaeologist (Paul H. Rosendahl, Ph.D., Inc.) have concurred that the proposed plan for the surrounding area adequately buffers the site.

The plan provides for a single vehicle entry from the major project collector roadway leading into a parking area that might accommodate 20 to 30 cars and several school busses. Adjacent to the parking area, proposed facilities might include a manned interpretive center, a halau or meeting room, restrooms and a maintenance area. A trail system might extend from the interpretive center into the park, leading the visitor through landscapes and environments recreated from prehistoric and historic periods. The trail system could be designed to minimize intrusion into the actual birthstone site. A dense landscape buffer could surround the park to screen out visual and noise interference. It should be noted that the plan is conceptual and provides only one of many scenarios of how the expanded Kukaniloko Park could be developed.

As owner of the Kukaniloko site, the DLNR Division of State Parks will be responsible for the long-term preservation and interpretive display of the State Park. The State Parks Division is now in the process of convening an ad hoc community advisory group to provide community input into the preparation of a plan for the park. The applicant intends to cooperate and assist in this activity, and will coordinate its planning for the surrounding areas with the State plans to ensure compatibility and integration.

A range of alternative plans will likely be analyzed by State Parks before deciding on a preferred plan for the new State Park. The concept plan for Kukaniloko and vicinity shown in Figure 13A explores a concept focused on education. Oahu residents and visitors would visit the park to learn about the significant cultural history of the region and the site. The plan gives the viewer a representation of the scale and size of the total eleven-acre park, relative to the existing half-acre birthstones area and nearby land uses.

The sightline analysis requested by the DSP determined that vegetative screening at the perimeter of the 11-acre Kukaniloko Park and within adjacent land uses would mitigate project impacts. Site grading within the Park boundaries should also be considered as a complementary approach to perimeter landscaping to mitigate against visual intrusions into the Park. A 100-foot landscaped setback is also planned along both sides of Kamehameha Highway to further buffer adjacent urban uses.

DSP recommended demarcating the property line of the historic site with a low, stacked rock wall. The applicant will work with DLNR and other interested groups to plan an appropriate buffer and demarcation for Kukaniloko. The golf course will be designed according to City and County standards for safety distances for development and thus the potential for golf balls to enter the site is minimal. Based on resident concerns, the applicant will also establish a potable water irrigation system in the areas immediately adjacent to Kukaniloko instead of the reused wastewater effluent (tertiary-level treatment) to be used for irrigation elsewhere.

The proposed development will not have a significant impact on Site 4571 due to erosion and sedimentation from runoff. The present agricultural operations contribute to erosion and sedimentation through runoff into Poamoho Gulch, which is not regulated by government permit. Runoff from the developed site will be subject to Department of Health Administrative Rules and City and County ordinances and standards governing grading and drainage. Furthermore, the provision of a landscaped ridgeline park along Poamoho Gulch and nearby golf course will reduce siltation and erosion through the turf established on both recreation facilities.

The applicant will continue to consult with the Division of State Parks and preservation groups to provide for the appropriate preservation and interpretive measures for Kukaniloko, as well as the future disposition of the additional six acres proposed for addition to the present park.

CHAPTER 5

Assessment of Existing Conditions
and Probable Impacts:
Socio-Economic Environment

CHAPTER 5	ASSESSMENT OF EXISTING PROBABLE IMPACTS: ENVIRONMENT	CONDITIONS AND SOCIO-ECONOMIC
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The socio-economic impacts of the proposed project on both the project site and neighboring communities were analyzed by Community Resources, Inc. (CRI). The report includes as its study area the nearby communities of Wahiawa, Whitmore Village, Schofield Barracks, Poamoho Camp, and Wheeler Army Airfield. The social impacts of the project are likely to be largely concentrated in these communities. The full report appears in Appendix H, and is summarized below.

5.1 Population

Existing Conditions

According to 1990 Census data, the population of the Central Oahu DP area was 130,698. Post-World War II population in Central Oahu growth has outpaced the island as a whole, with an average annual growth rate of 2.6 percent between 1980-1990, compared with 0.9 percent for Honolulu County. However, the population of Wahiawa has experienced slower growth during the same period, with an average annual growth of 0.3 percent.

The only residents within the area of application are the 282 Poamoho Camp residents (per 1990 Census data).

Impacts

No residents will be displaced from the area of application, including at Poamoho Camp.

The population living on the project site is expected to reach nearly 2,000 by the year 2000, and to exceed 8,000 by 2010 (see Table 2). The following assumptions were used in calculating the future resident population:

- For most of the project, household sizes will be slightly smaller than the current averages in Wahiawa and Whitmore Village, and comparable to the current islandwide average household size. This assumes that demand for housing will remain high, but crowding will diminish.
- The project will be suitable for many elderly households, thus household size estimates for multi-family units is low. This does not preclude the occupation and design of other housing types by elderly households.

**Table 2
On-Site Housing and Resident Population**

	2000	2005	2010
OCCUPIED UNITS (1)			
Market Single-Family	202	617	1,168
Affordable Single-Family	120	234	234
Medium Density	133	626	627
Multi-Family	250	693	862
TOTAL	705	2,170	2,890
POPULATION			
Market Single-Family (2)	626	1,914	3,620
Affordable Single-Family (2)	371	724	724
Medium Density (3)	400	1,879	1,881
Multi-Family (4)	550	1,524	1,896
TOTAL	1,947	6,041	8,121

Source: Community Resources, Inc. 1992.

Notes: (1) See Exhibit 1-D in Appendix H for general buildout schedule. Occupancy based on market report and assumption that 5% to 10% of units will be vacant at any time.

(2) Average household size estimated as 3.1 persons/household.

(3) Average household size estimated as 3.0 persons/household.

(4) Average household size estimated as 2.2 persons/household.

5.2 Demographics and Compatibility with Surrounding Communities

Existing Conditions

The socio-economic impact assessment described the demographics of the project area's neighboring communities in order to evaluate the impacts of the project on the character and culture of these communities. The following section provides short descriptions of these communities.

Wahiawa. Wahiawa is the principal settlement in the study area, serving as the regional commercial and educational center. Its proximity to both Schofield Barracks and Wheeler Field has led to a sprawling mid-town development more typical of Mainland military base communities than other Hawaii towns. The town's retail outlets rely heavily on soldiers from nearby Schofield and traffic traveling between the North Shore and Honolulu. Wahiawa's residential areas retain a rural atmosphere, with few high-rise structures and larger residential lots.

Unlike other study area towns, Wahiawa has ethnic and age breakdowns closely resembling the County's. Notably, Wahiawa has the only significant Native Hawaiian population in the study area.

Wahiawa's population is the most geographically stable of the study area communities, with around two-thirds born in Hawaii and close to 60 percent having lived in the same house since 1985.

Wahiawa residents have about the same share of high school graduates as islandwide, but a smaller proportion of residents hold college degrees than the island as a whole.

The town's median household income of just over \$33,100 is substantially below the County median of \$40,581. Furthermore, Wahiawa has proportionally more households in the lowest income range and fewer households in the highest income range than County levels, and the number of households relying on public assistance as a source of income is double the County level.

Whitmore Village. Whitmore Village is a predominantly Filipino community with almost 3,400 residents. The population is younger than that of Wahiawa or the County. Almost 40 percent of Whitmore residents are foreign-born, compared to only 16 percent for the County.

The village median household income is the highest in the study area and the County's. This, however, does not indicate wealth, as Whitmore Village has more people per household than in nearby communities. Although relatively few families are below the poverty line, Whitmore has a notably higher rate of households receiving social security, retirement, and public assistance income than islandwide. Only one-tenth of the town's workers work in Whitmore proper, making it a commuter community.

Poamoho Camp. Poamoho Camp is the amalgamation of three area Del Monte camps that were moved to the site during the 1930s. All of the Poamoho households include either current or retired Del Monte workers. About 80 percent of the camp's residents are Filipino, many of whom were born abroad. The camp has many more persons per household than the islandwide norm.

Schofield Barracks. Schofield's population of more than 19,500 has increased over the past decade. As a military settlement, Schofield is understandably unlike its neighboring civilian communities. Caucasians comprise almost two-thirds of the residents, followed by Blacks who comprise almost one-fourth of the population.

The population is young, with one-third of the population made up of school age or preschool age dependents. Although Schofield has fewer college graduates than islandwide averages, it outranks the County in terms of high school graduates.

Telephone Survey

One of the major sources of input into the analysis of "fit" or compatibility" of the project with the Whitmore/Wahiawa community was a random sample telephone survey conducted in August 1992. The survey methods and results are documented in the CRI report (Appendix H). A summary of major responses to the survey are provided below. It is recognized that the survey is only valid at a specific point in time and that community values and opinions will change over time.

Based on the survey, it is possible to discern general community sentiments as follows.

- ▶ Half the survey respondents were unaware of the project.
- ▶ They wanted more youth recreation, parks, etc.
- ▶ They don't want more high rises and big buildings.

- ▶ They appear to accept proposed size/scale of the project.
- ▶ They voiced strong support for creating a combination of jobs and housing.
- ▶ Assuming the project doesn't harm Del Monte or its workers, people would rather see the lands used for jobs and housing rather than for continued pineapple production.
- ▶ They had mixed reaction toward many of the project elements, and not much support for a low-fee public golf course.
- ▶ Major concern: Traffic.
- ▶ Major potential benefits: Jobs and housing.
- ▶ More than one out of three households say they are doubled up and have people who would prefer to move out into new homes provided by the project if housing were cheaper.

Impacts

The design and market estimates suggest that the project will house Oahu residents, most of whom will have household incomes ranging from 80 percent to 120 percent of the island median. Families living in the project are likely to consist largely of middle-income younger working families. With some housing developed specifically for the elderly, the age distribution will include more seniors than in other new subdivisions. Overall, the project is expected to mirror the State's projected age distribution.

Most residents are expected to move from other sites on Oahu, especially Ewa and Central Oahu. In view of military families' need for housing, an appreciable minority of families on-site could be military. No visitors or part-time residents are projected in the residential population.

The project's social "fit" or compatibility with existing nearby communities cannot be fully predicted or guaranteed. Still, available evidence suggests that the project can over time be integrated with Wahiawa and Whitmore Village. Such integration would depend on design decisions and continuing community involvement. This section summarizes potential opportunities and problems for the project to complement and fit in with the surrounding communities.

Wahiawa and Whitmore Village. With the development of new commercial and civic areas, the project could help revitalize community character by creating a greater Wahiawa. Additional housing and jobs would help Wahiawa retain its younger people, although in interviews, some Wahiawa residents thought the project could overshadow older parts of Wahiawa and draw business patrons away from Wahiawa. Other concerns include the potential loss of agricultural or rural identity for Wahiawa.

The applicant is aware of the concern that the business and government focus of Wahiawa may shift to the proposed development. However, it is the project's intention to reinforce Wahiawa as the regional urban center. The increased household disposable income and employment opportunities brought into the Wahiawa area by the project is expected to generate significant civic, business and commercial opportunities in Wahiawa, both in terms of increased demand for existing services and demand for new services. The development team has met with numerous community groups to begin the process of identifying how the project could *complement* the existing business and civic resources in Wahiawa, rather than compete. The development team plans to continue to work closely with groups and individuals in the Wahiawa community as the development process proceeds.

Development of the project would enable Whitmore Village to be more closely linked to the rest of the community, with some loss of isolation from Wahiawa.

Poamoho Camp. The project will affect this community by (a) changing its Development Plan designation to reflect its residential nature, and (b) bringing urban development much closer than at present. However, the future of the community depends on Del Monte's plans. Both Del Monte and the Hawaiian Trust Company have expressed interest in increasing the Camp residents' security of tenure. Discussions among the concerned parties will be held as plans progress.

Schofield Barracks. "Compatibility" with surrounding areas is much less of a concern for this community than others because (a) the base forms a separate community; (b) personnel assigned to Schofield rarely stay longer than three years; and (c) Schofield residents may rely on Wahiawa for limited retail services, but most look elsewhere to meet most of their needs for goods and entertainment.

If the project includes a military family housing component, it would respond to a pressing need of Schofield personnel.

Impact on North Shore communities. As noted in Appendix H, North Shore residents are likely to be concerned with traffic impacts associated with the project. Of these, traffic through the project site would be a major concern. Other possible impacts on North Shore communities include:

- increased employment opportunities in the region;
- increased retail choices nearby (and on the way home from jobs in the Honolulu and Central Oahu areas);
- affordable housing, which could help to relieve crowding and provide new opportunities for young North Shore families; and
- somewhat larger populations at North Shore beaches. This last impact has not been quantified, but it would hardly amount to a large "influx of weekend tourists," since project residents are expected to be existing Oahu residents, many of whom already look to the North Shore for weekend recreation.

Mitigation Measures

The town's agricultural identity is more a matter of atmosphere and support of the industry, as relatively few people in Wahiawa now work on the plantations. Consequently, that identity may be strengthened or weakened by project design decisions. The town core area proposed for the development includes traditional street organization in a grid pattern, similar to that of Wahiawa. The mix of uses within the core area will facilitate pedestrian access between residential, commercial and public recreation areas, typical of a small, rural town. The low-rise, low-density character of the development, with substantial open space amenities (golf course, ridgeline and lakefront parks) will also contribute to an environment which echoes the quiet residential areas of the surrounding communities.

The "rural" or "small town" identity of the project and Wahiawa as a whole depends in part on planning described in the EIS (e.g. project population densities lower than those found in Wahiawa today), and in part on an effort to identify, in collaboration with existing Wahiawa residents, local needs and strengths to be addressed in making a

"greater Wahiawa" heir to the independent small town tradition of Wahiawa. The applicant has begun, and is committed to continuing, the community involvement effort described here. Evidence of this are the meetings with a community advisory committee which has met nine times since February 1992, meetings with seven Wahiawa community organizations¹, and two town meetings open to the general community. The applicant's intent to continue this dialogue with the community has been expressed consistently to community groups and government agencies.

As described in Chapter 2, the applicant is recommending that an "urban design plan" for the project be prepared as a condition of Development Plan approval. The plan would provide overall and site specific design guidelines for the development consistent with the design philosophy established in the EIS, provide architectural, landscape, lighting, and other design details for the various land use elements and circulation systems, and provide greater detail in the area of project phasing and implementation.

5.3 Housing

Existing Conditions

Wahiawa. Wahiawa has over 5,700 dwelling units. The town has a vacancy rate half that of the County. Close to 70 percent of the houses are single-family, which is much greater than the Oahu average of 55 percent. Houses in Wahiawa are older than that of the County or study area in general. Residences range from a few dilapidated tenements near the town's core to modest but well-maintained single-family units.

The 1990 median value for homes is almost \$100,000 lower than the islandwide median. In other respects, Wahiawa homes and household characteristics are similar to County averages.

Whitmore Village. Whitmore Village has close to 850 units, with very few vacancies. Whitmore Village's housing stock is generally newer than the County's, since about two-thirds of its structures were built within the last ten years. More than four-fifths of the Whitmore housing stock is single-family, and the remainder mainly apartments. The village has more persons per household than the islandwide norm or than in Wahiawa.

Poamoho Camp. Poamoho Camp is a continuing plantation community on unsubdivided land. The dwellings are owned and managed by Del Monte, and rented to residents at modest rents. The Poamoho housing stock is comprised almost entirely of single-family units, the remainder being temporary or mobile structures.

Impacts

The southern portion of Central Oahu (Mililani to Waipahu) is slated for heavy residential development. New subdivisions are being planned along with expansions to existing projects. Current timetables suggest that over 15,000 units will be built in the area from Waipahu to Mililani by 2010 (CRI, 1992).

¹ Wahiawa Neighborhood Board, Wahiawa Community and Business Association, Wahiawa Rainbow Club, Whitmore Seniors, Whitmore Village Community Association, Wahiawa Rotary Club, and the Wahiawa Lions Club.

This section describes the possible impacts of the proposed project on the Oahu's housing market.

Household Formation. Demand for new or additional housing occurs as young adults develop both their own families and the resources to live independently. Despite Hawaii's stable economy, new household formation tends to occur at low rates, due in part to high housing costs. With an expanded housing supply, increasing numbers of young families will be able to establish themselves independently on Oahu.

Project Employee Housing. Jobs associated with project operations will support a statewide population of about 13,600 people (workers and dependents) in 2010. Of these, an estimated 7,700 people could live in the Central Oahu and North Shore DP areas. Project-related workers could occupy 900 households in the region in 2000, and over 2,500 in 2010.

The total statewide housing demand associated with the 2010 project-related workforce would amount to 5,200 to 5,800 units. Of these, some 3,000 to 3,300 units would likely be located in the Central Oahu/North Shore region.

The project could theoretically house the regional workforce associated with its operations and could also provide housing covering much of the new demand that the workforce could generate. By locating new jobs in Central Oahu, the project will not create any sudden surge in demand for housing in the area. The project's overall design limits the potential for strains on regional resources that could be expected with a new project in Central Oahu.

5.4 Employment

Community Resources, Inc. analyzed the employment impacts anticipated as a result of the proposed project. The results of their analysis are summarized below and are attached as Appendix H.

The proposed development involves short-term construction jobs and continuing jobs in operations housed on-site. The number of construction jobs varies from day to day for any building, and from year to year as different phases of the project is built out. Construction jobs are accordingly estimated in terms of the average number of full-time equivalent jobs created during a period of time, and measured in person-years. In contrast, operations jobs are permanent.

Construction and operations both involve direct jobs, and both stimulate indirect and induced jobs². Indirect and induced jobs are created throughout the economy, not just in the construction industry or the industry of a project operation. Direct jobs, in this case, are located on-site. As a rule of thumb, 80 percent of direct construction jobs are on-site, and the remaining 20 percent consist of off-site jobs. Indirect jobs are not likely to be concentrated or located near the project. Since induced jobs depend on employees' spending, these tend to cluster near a project and near employees' homes.

Construction. Construction of the proposed development is anticipated to begin in 1996, with occupancy of the first 600 units available beginning 1998. Both housing and other facilities are projected to develop at a steady pace for about ten years. Direct

2 *Indirect jobs* are created by spending on goods and services needed to support project construction and operations; and
Induced jobs are created when workers in direct jobs spend their money to buy goods and services.

construction jobs would involve over 3,750 person-years, over a 15-year period, or an average of 250 jobs for any given year.

About two indirect and induced jobs are created for every construction job. Construction spending for the proposed project would support an average of 530 indirect and induced jobs through 2010.

Operations. A few direct operations jobs are projected as being created in the late 1990s. With major developments in the business center and town core area, the number of jobs on-site would exceed 1,000 by the year 2000, and then increase to 3,400 in 2010. Operations jobs would be of several types:

- household and personal care, rental management
- convenience store-type retail jobs
- health care (including elderly care)
- "back office" jobs (e.g. banking, finance and business services)
- retail jobs associated with a factory outlet center (possible employment generator)
- warehousing, maintenance, and repair industries
- education, landscaping, recreation, retail operations

Table 3 summarizes the direct operations employment estimated for the project as it is developed.

Table 3
Direct Operations Employment
(by location in project)

	2000	2005	2010
RESIDENTIAL AREAS (1)	16	50	64
COMMERCIAL AREAS (2)			
Convenience Store Areas	145	290	436
Mixed Use "Core"	174	348	523
Business Center	643	1,073	1,437
Light Industrial	120	479	719
OTHER AREAS (3)			
Schools	60	120	120
Civic and Parks	20	34	47
Golf Course	40	40	40
Pineapple Museum	25	25	25
DIRECT OPERATIONS EMPLOYMENT	1,243	2,459	3,410

- NOTES:**(1) Estimated on the basis of occupied units, with more jobs expected in high-density areas.
(2) Estimated on the basis of jobs per square feet of net usable space, with ratios varying from one job per 200 square feet in convenience shops, to one job per 1,500 square feet in the light industrial area.
(3) Estimated on the basis of comparable operations in Hawaii (e.g. Central District public elementary schools).

5.5 Fiscal Impacts

Community Resources, Inc. analyzed the fiscal impacts of the proposed project. Their findings are summarized below and the full report is attached as Appendix H.

The project involves no new capital flows from outside Hawaii. It is expected to house Oahu residents, and not to attract new residents from off-island. It is an indirect effect of the overall growth of the island and State economies, not a new stimulus. This means that its economic impact is, for government entities, minimal or nil. As a result, its fiscal impacts--the revenues and costs for government bodies associated with the project--are also small.

However, the project can be analyzed with respect to its locational impacts of whether the development of the new community will commit government bodies to additional costs not offset by new revenues. The socio-economic impact assessment estimated the costs and revenues associated with the project for both the City and County of Honolulu and the State of Hawaii.

The fiscal impact analysis projects the balance of new revenues and costs for local government associated with development of the project. It is necessarily preliminary in that it does not include:

- (a) the "marginal cost" of the project, i.e., specific new public costs (such as costs of road improvements borne by government agencies, not the developer) attributable to the project; or
- (b) impact fees or assessments that might be levied against the project, and/or contributions established in any unilateral development agreement.

The fiscal impact analysis uses an "average cost" approach, to reach an estimate of impacts on government spending independent of the particular agreements still to be worked out between government bodies and the developer.

The heart of the "average cost" method is the assumption that government spending for residents at a new site will be the same as for residents of existing areas. The assumption is in practice conservative, since (a) it implies that government services will be extended fully to new areas as population develops and (b) no adjustment is made for the likely lower-than-average cost of extending services (in many cases without additional capital improvements or staffing) from existing government facilities for a new area.

The analysis estimates the impact on government costs and revenues of locating people and jobs in a new planned community, as opposed to crowded conditions or in-fill development elsewhere on Oahu. It does not estimate all the costs and revenues associated with residents and jobs at the project site, since these people and jobs would presumably be on the island with or without the project.

Government costs (including both operations and capital costs) expected to be particularly sensitive to planned development are spending on:

- highways;
- economic and urban development;
- mass transit; and
- cash capital improvements.

To estimate increases in government spending associated with a planned development, it was assumed that spending for these functional areas would be twice as much as normal, i.e., increases over normal spending would be equivalent to the average cost per capita for these areas. These increases were projected as occurring during the construction period.

Annual cost estimates were derived from the average cost for selected functional areas in 1990, adjusted to 1992 dollars (as shown in Appendix H, Exhibits 4-K and 4-N), multiplied by the on-site resident population (in Exhibit 4-F).

Revenues expected to be sensitive to planned community development were related to construction and real property value. Other revenues (from operational cash flows) were not included.

The fiscal impact of the project is the additional costs and revenues incurred by government with project development. Other costs would be incurred to support the population with or without the project. Since the project will not in itself add to the population of the County, these costs are not impacts of the project. (Arguably, the project could help to reduce government costs associated with social services and public safety, since the provision of affordable housing and jobs near homes should lower social stress. This line of argument has not been pursued in the fiscal analysis.)

The question of whether fiscal cost impacts are underestimated in the early years if specific infrastructure costs are not included in the calculation will only be possible when government agencies have estimated the infrastructure costs they are willing to bear in advance of project development. The possibility exists that early impacts could be underestimated. However, the cumulative balance of revenues to costs for the City and County shown in Exhibit 4-L of Appendix H is positive (2.2 to 1), allowing considerable margin for a time lag between costs and offsetting revenues.

It should be noted that capital outlays and debt service amount to about one-third of the City and County's budget. New capital outlays associated with development (not with ongoing City and County operations) are only part of that capital budget. As a general rule, then, it is likely that early capital costs for new infrastructure would be outweighed by costs for operations and capital outlays needed to support operations for the population associated with the project. In other words, the bulk of government costs would probably follow development, not precede it.

City and County of Honolulu. Anticipated City and County revenues are estimated in Exhibit 4-J. It draws on assumptions about project scheduling and housing sales values developed by the market consultants for the project (Appendix I, Chapter V), and on real property tax values for comparable commercial and industrial properties in the region. Taxes are calculated on the basis of expected values and the 1992 assessments for different land and improvement categories approved by City Council.

The City and County would gain in real property tax revenues throughout the life of the project. Revenues would increase to about \$3 million annually as the project is built out. Current property taxes on the project site are low, since the site is used for agriculture. The agricultural leases expire in 1994. Revenues expected to be sensitive to planned community development were related to construction and real property value. Other revenues (from operational cash flows) were not included.

The average costs per new resident of additional City and County spending in support of the new community were also estimated. As the project is built out and residents occupy the homes, the total costs would rise to \$1.4 million in 2010.

The report estimated the balance of revenues to costs for the project. It projected a cumulative balance of \$13.1 million as of 2010, and a positive ratio of revenues to costs of 2.2:1.

State of Hawaii. State revenues associated with the locational impact of the project are all construction-related, since revenues associated with operations are not clearly dependent on the creation of the project as a new community. State revenues will increase to \$5.6 million annually at the height of construction, then diminish at the end of the period.

The estimated cost to the State resulting from the development of the new community would rise with the increase in residential population. As the resident population increases, that cost would rise from \$1.3 million in 2000 to \$5.5 million in 2010. The cumulative balance of project development is estimated at \$7.2 million, and the ratio of revenues to costs is positive throughout the period of development, ranging over time from 9.3:1.0 to 1.2:1.0.

5.6 Market Analysis

A market assessment of the Wahiawa Lands was prepared by Gail W. Atwater and James W. Stanney (in association with Community Resources, Inc.). The results of this analysis are summarized below, with the full report attached as Appendix I.

Site Characteristics. The subject site is well served by existing roads, with primary access via Kamehameha Highway and Kamananui Road. This ease of access combined with the area's cool climate should be attractive to potential residents. Additionally, the subject site's topography should provide excellent views and offer an easily developable site.

Area Review. Hawaii's economic growth over the past decades indicates the strength and resiliency needed for continued expansion of both housing and commercial markets. Over time, economic indicators such as employment, visitor expenditures, and inflation have consistently exhibited more vigor and strength than the Mainland U.S.

The State of Hawaii, especially the island of Oahu, has demonstrated substantial growth in all sectors of the economy. Based on current and past economic trends, such growth is expected to continue for the foreseeable future, and should support development of the site.

Specific social and economic indicators which support the demand for future residential development on Oahu include:

- Projected 20 percent growth in population in absolute numbers between 1990 and 2010;
- Expected decline in household size and related increase in household formations;
- Deceleration of real personal income growth during 1980s, with recovery beginning in 1992 indicates need for affordable housing;
- Residential building permit trends; and

- Decrease in proportion of single-family detached units to total residential units over time in Oahu's for-sale residential market.

The following factors appear to support demand for further development of commercial space on Oahu:

- Positive growth in Gross State Product indicating probable healthy and growing industrial market;
- Wage and salary employment trend lines indicate increase in Oahu jobcount over time;
- Trends in Oahu's office market towards low vacancy rates and limited supply of suitable lands may accelerate decline in proportion of commercial office space in the downtown area as major businesses relocate some administrative offices to more cost-effective suburban locations;
- Factors in Oahu's industrial market (e.g. reductions in supply due to redevelopment, low vacancy rates, and introduction of non-industrial uses) which contribute to upward pressures on occupancy and rents for light industrial purposes;
- Trend of higher consumer prices on Oahu than nationally;
- Comparatively robust retail sales performance; and
- Steady growth in visitation and tourist expenditures over the past twenty years.

Residential Market Assessment. The project market analysts (Gail W. Atwater/James W. Stanney) prepared an analysis of residential supply and demand in the Central Oahu DP area based on population estimates, allocation factors for Central Oahu (from the General Plan), existing housing inventory, and projected additions to the housing stock. The study is summarized below and included as Appendix I.

The market study found that the primary competitive supply for the subject property will come from developments in the Central Oahu market. The most competitive projects will be those located in master planned communities. These communities include developments such as Mililani Mauka, Melemanu Woodlands and Waikele. Additionally, Central Oahu competition will come from stand alone subdivisions in the area.

Secondary competition is also expected from the final phases of some of the master planned communities in the Ewa area. The most competitive of these communities will be Ewa by Gentry. To a lesser extent, the City of Kapolei can be considered to be in the secondary competitive market. However, it must be noted that this project has established a unique identity, and that most buyers in the City of Kapolei will probably not shop the subject property. Due to an upscale orientation of the existing and planned subdivisions in the Makakilo development, this project is deemed to provide limited if any competition for the proposed development on the subject property.

An analysis of the existing and projected housing supply for Central Oahu resulted in a total of about 49,000 units by 2010. A detailed description of the methodology employed to reach this can be found in the full market study.

On the demand side, total housing demand was calculated based on projected population, households and household size, and vacancy rates. While the household size was assumed to be 2.75, which is consistent with the figure used by the Planning Department, this figure appears to be conservative based on national trends toward smaller family size and the alleviation of pent up demand (exhibited in the significant

number of "doubling up" households), and the relatively high ratio of renters to owners.

Applying the Planning Department's capture rates of 14.9 to 16.5 percent to the estimated islandwide demand of approximately 370,000 units by the year 2010, indicates demand in the Central Oahu area of approximately 55,000 to 61,000 homes.

The analysis of residential supply and demand estimated a housing shortfall for Central Oahu in 2010, ranging from a low of 6,300 to a high of 12,200 units (compared with the proposed 3,100 units in the Wahiawa Lands development). The project's capture rate of the total Oahu residential market is estimated between 3.0 to 8.5 percent.

As discussed above, the primary competitive supply for the project will be in Central Oahu. While secondary competition may come from the master planned communities in Ewa DP area, such as Ewa by Gentry, the analysis concluded that the even the low-end demand for homes in Central Oahu would be greater than the 3,100 units planned for the Wahiawa Lands development.

Based on the estimated 13-year sell out of the 3,100 residential units, an average annual absorption rate of between 225 and 250 units appears to compare favorably with the experiences of other communities. Based on analysis of capture rates of West Loch, Mililani/Mililani Mauka, Kapolei and Ewa by Gentry, the proposed development's estimated capture rates of 3-8.5 percent per year of the total Oahu residential market appear to be conservative.

The proposed project is not expected to adversely impact the City's policy to give development priority to creating a second urban center in Ewa. The development will complement the second urban center by promoting Wahiawa as a regional center for the Central Oahu and North Shore area, rather than a suburban community fully dependent on links to Honolulu. Additional dispersion of population and commercial concentrations will impact the flow and direction of traffic volumes, which currently funnels from all directions on the island into the Primary Urban Center.

The proposed community will be developed along the general guidelines of the State of Hawaii, Housing Finance and Development Corporation. These guidelines provide for the development of 60 percent of the development's housing component to be affordable and the remainder of the development to be offered at market rates.

Retail. The proposed development is surrounded by major arterials and the mixed use town core is intended to facilitate pedestrian traffic. These attributes are expected to provide potential retail tenants with excellent visibility and vehicular and pedestrian traffic counts. The development will be a part of the larger Wahiawa community, which is already established as a trade center for residents of north Central Oahu and the North Shore.

By the year 2010, there appears to be a significant level of potential demand for a variety of retail goods and services. These needs appear to support a wide range of tenants, including smaller stand-alone or in-line tenants and larger anchor tenants. The market assessment identified a potential need for new retail space of 390,000 square feet by 2010. Tenants drawn to the subject property will primarily provide goods and services for its residents. Additionally, by complementing the merchandise offered for sale by the existing Wahiawa merchants, the retail facilities in the development will also help to anchor Wahiawa's position as trade center for the north Central Oahu and North Shore areas.

Employment Generators. The market assessment also investigated the possibility of locating employment generating uses within the development, in order to provide a balance of jobs and housing. The analysis resulted in the recommendation of the following potential land uses:

Suburban office and/or back office. *Back office* describes a collection of operations not requiring face to face customer contact, such as computer facilities and administrative support functions. There is a trend among major businesses to relocate these functions to suburban locations due to lower land cost and shorter commuting times for employees. This trend has created demand for commercial office space in outlying suburban areas not previously associated with traditionally main-office activities.

According to the market assessment, a labor pool exhibiting the characteristics associated with back office employees appears to exist in the Central Oahu area. Interviews by the market consultants resulted in the identification of several organizations that would give serious consideration to locating back office facilities on the project site (e.g. major savings and loan institutions, health care facilities, and a major hotel chain).

Light industrial. The Oahu industrial market has experienced strong occupancy levels over the past several years. It is believed that the industrial portion of the proposed development will provide an affordable alternative for business being displaced by redevelopment of industrial parks in the Primary Urban Center and expansion of the Honolulu International Airport and the introduction of non-industrial tenants (e.g. no-frills retailers) who are able to pay higher rents. While Wahiawa is further removed from Oahu's existing population centers than the current location of many of these potential tenants, the westward shift in the population base over time should help offset this.

With the construction and occupancy of one or two buildings per year (average size of 50,000 square feet), the property would experience a 3.3 to 6.7 percent capture rate at the three-year average absorption level, comparable to other Oahu light industrial projects.

Retail outlet center. Although Oahu has not yet benefitted from the retail outlet industry, the market exhibits many of the necessary ingredients for the successful development and operation of an outlet center:

- physical separation from off-price centers and normal retail distribution centers (i.e. department stores);
- a high tourist base;
- excellent access;
- tour bus availability (it is estimated that one-third of the shoppers will come from the immediate local community, one-third from the region and one-third visitor); and
- a market containing educated and employed women, who have long been the primary shoppers at outlet centers.

While the Waialeale Center (the only other proposed outlet center on Oahu) is further ahead in tenant contact with manufacturer's outlets, it is proceeding with a mixed concept including outlet stores and an off-price anchor. This concept is not attractive to typical outlet center tenants for competitive reasons. The data sources indicate that the minimum critical mass necessary for an outlet mall was approximately 150,000

square feet. As such, it appears that the market could support one to two outlet centers. The outlet center at the Wahiawa Lands development would be planned as a pure outlet center, providing a unique retail service to an underserved market.

Health care. As Oahu's population continues to shift to the Central and Leeward communities, and as the population of the North Shore ages, medical facilities have indicated an increased interest in Leeward and Central Oahu locations. The need for new facilities in the Wahiawa area is further evidenced by the physical constraints on the existing Wahiawa General Hospital and a single medical arts building serving the community.

The subject property has sufficient land to attract a large facility. Highway improvements to Wilikina Drive would be necessary to ensure needed access. An additional benefit of attracting a major health care facility to the site would be from the other supportive land uses such as office, limited retail and rental housing for health care personnel.

Other potential tenants include regional family practice clinics of major Oahu health care providers, along with associated physicians' offices and limited laboratory facilities.

Golf Course Analysis. The market assessment also included an analysis of the demand for the development of a public play golf course, with an emphasis on municipal golf courses.

As existing municipal courses are reported to be operating at capacity, and often exceed desired capacity levels, adequate demand appears to exist in the near future for the development of an additional municipal course on Oahu.

With regards to non-municipal daily fee courses, a uniqueness would be required to differentiate the subject project from the numerous others proposed, such as the offering of reduced rates and special preferences regarding tee times for local residents. These rates could be indexed to the rates charged by municipal courses.

5.7 Agricultural Impacts

An agricultural impact report was prepared for the project by Decision Analysts Hawaii, Inc. The findings of the report are summarized below, with the full report reproduced in Appendix J.

Existing Conditions

The area of application is currently under lease to Del Monte Fresh Produce (Hawaii), Inc., with the leases expiring on December 24, 1994. About 800 acres of the total area of application are used for growing pineapple.

The agronomic conditions at the project site are favorable for cultivating pineapple, due to its deep, well-drained soils, large expanse of flat fields, moderate rainfall, and temperatures which favor summer crops. Seasonal cloud cover and cool temperatures limit productivity during the first quarter of the year. The agronomic conditions are not favorable for cultivating most other crops because of relatively low sunshine and expensive irrigation water, particularly since most crops require far more water than pineapple.

Impacts

Impact to Del Monte Fresh Produce (Hawaii), Inc. Of the four plantations on Oahu, Del Monte is economically the healthiest and provides the most employment, while using the least amount of land and relatively little water. The plantation sells high-value pineapple on the mainland, and is developing the market for high-value fresh-chilled pineapple (pre-cut, chilled and packaged). Del Monte plans expansion in production and acreage, if possible.

Del Monte's Oahu plantation is comprised of about 7,500 acres within the Poamoho and Kunia areas of Central Oahu. All of its lands are leased from three landowners: Galbraith Trust Estate (C. 2,050 ac.), State of Hawaii (c. 580 ac.), and The Estate of James Campbell (c. 4,790 ac.). All of its leases expire on December 31, 1994.

Del Monte cultivated about 5,690 acres of its 7,500 acre plantation in 1991, and used an additional 120 acres for the plantation village at Poamoho and its Kunia headquarters and plantation village complex. An additional 1,610 acres were not in cultivation, including (1) high-elevation fields, (2) roads, and (3) gullies and other lands that are unsuitable for mechanized farming.

Because the plantation is small, with few land reserves, it is vulnerable to a loss of land. The project would have an uncertain impact on Del Monte. If sufficient replacement lands of good quality and with available water are secured to maintain its planting schedule, and these lands are available in a timely manner with respect to crop cycling, then the impact on Del Monte will be insignificant.

After consultation with Del Monte, the applicant has proposed the current pineapple phase-out plan. The first phase of the development is planned for the 1996-1998 time frame. Implementation of this will require that Del Monte secure 400 acres of replacement lands in 1999. Another approximately 400 acres would be required in 2000 or 2001, depending on the planting cycle employed by Del Monte. If for some reason, development proceeds more rapidly than currently anticipated due to market forces or opportunities, Del Monte will require 225 acres of replacement lands in the summer of 1996.

Although the project will result in the loss of about 800 acres of prime agricultural lands over a five- to seven-year phase-out period, the applicant intends to make a long-term commitment of 1,300 acres to the north of Kamananui Road to agriculture. Hawaiian Trust Company, Ltd. has worked very closely with Del Monte to come up with a plan that would minimize impact to the plantation and its workers. As noted in a letter from Dan Wilson, General Manager of Del Monte's Hawaii operations (attached in Appendix J), Del Monte feels that the commitments and agreements it has made with Hawaiian Trust will allow it to remain a significant force in the Hawaii pineapple industry for years to come. The letter also notes that Del Monte has already found 400 acres of replacement land in the Kunia area.

Del Monte is currently negotiating with its lessors and other landowners to secure the additional land requirements. If the necessary acres of replacement lands are not available in a timely manner, then Del Monte may be forced to close its Oahu plantation, and replace it with a larger one in Mexico or Guatemala in order to maintain production and deliveries. A phase-down of Hawaii operations would likely occur over a period of four years. The total direct and indirect employment loss to the State would be about 1,500 jobs.

Impact to Dole Food Company, Inc. The project is likely to cause Dole to fallow the pineapple lands that will be sandwiched between the development and Whitmore Village, and release about 60 acres of land for housing development. Development in this area is not expected to occur until around the year 2000 so this is considered a longer-term indirect impact.

If Del Monte is forced to close its Hawaii operations because of the project, Dole would benefit from the greater availability of farming lands and from an increase in market share for fresh, Hawaii-grown pineapple. In any case, the project is not expected to significantly affect Dole's pineapple production or employment.

Impact on Oahu Sugar Co., Ltd. (OSCo). If the 800-acre of replacement lands for Del Monte are made available at the expense of OSCo, then the resulting loss of acreage by OSCo will weaken the plantation. The survival of OSCo depends largely on the future level of U.S. sugar prices, and on its success in renewing all of its major leases with terms sufficiently favorable to allow profitable operations.

If OSCo is able to survive for 20 years while losing land to Del Monte and to other housing projects, the amount of land under cultivation by OSCo would decline from 10,800 acres in 1992 to about 7,150 acres in 2010. Eight hundred (800) acres or about 22 percent of the 3,650-acre loss would be attributable to the project. At this reduced size, the survival of OSCo is uncertain since profitability will depend heavily upon the price of sugar, OSCo's lease rents, and future improvements in yields and operating efficiencies. If OSCo were to close, about 750 direct and indirect jobs would be lost.

If Del Monte closes its Oahu operations due to lack of replacement lands, OSCo would probably benefit from the availability of additional Kunia lands now farmed by Del Monte.

Impact to Waialua Sugar Co., Inc. (WSCO). The project could benefit WSCO indirectly if it causes Del Monte to close its Oahu plantation. Dole may vacate some of its lands for WSCO's use to farm some Galbraith Trust lands. More acreage would allow WSCO to benefit through greater economies of scale.

A similar result would occur if OSCo were to close as an indirect result of the project (discussed above). Lands now farmed by OSCo in upper Kunia could be made available Del Monte, which could vacate Galbraith Trust lands. Dole could move into these lands and make other lands available for WSCO.

Impact on the Growth of Diversified Agriculture. The project will not (1) adversely affect any existing diversified agriculture activities; (2) affect the amount of land available for diversified agriculture; limit the growth of diversified agriculture since, in other parts of the State, far more agricultural land has been released from plantation agriculture than has been absorbed by other activities.

Job Training. The applicant acknowledges that retraining and job placement assistance may be necessary in the event that pineapple workers are displaced as a result of the project. (This may be appropriate even if pineapple workers are not displaced.) The applicant is willing to work with the affected parties and relevant human services organizations and agencies to address this situation. It should be recognized that as the State's economy moves away from the plantation system of agricultural production, job displacement and retraining will be a statewide rather than local issue, and should accordingly be addressed on that level.

CHAPTER 6

Assessment of Existing Conditions
and Probable Impacts:
Public Facilities and Services

CHAPTER 6	ASSESSMENT OF EXISTING CONDITIONS AND PROBABLE IMPACTS: PUBLIC FACILITIES AND SERVICES
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6.1 Transportation

A traffic impact analysis report was prepared for the application by Wilbur Smith Associates. The findings of the report are summarized below. The full report is included as Appendix K.

Existing Conditions

The major roadways providing access to the project area include Kamehameha Highway, which crosses the lands; Kaukonahua Highway, which connects Wilikina Drive and Kamehameha Highway; the H-2 Freeway, in combination with Kamehameha Highway or Wilikina Drive; and Kunia Road, which links with Wilikina Drive. In addition to these facilities, Kamananui Road and Whitmore Avenue also provide circulation within the area. The following section describes these facilities.

Kamehameha Highway. Kamehameha Highway provides a link between Oahu's North Shore and South Shore through Central Oahu. Currently, Kamehameha Highway provides between two and six lanes of travel. The speed limit on Kamehameha Highway is 25 miles per hour (MPH) through Wahiawa and 45 MPH north of Whitmore Avenue.

Based on recent State counts, Kamehameha Highway carries an average daily traffic volume (ADT) of about 40,000 vehicles through Wahiawa and 13,200 north of Kamananui Road. In the area of the project, Kamehameha Highway experiences relatively uncongested travel. Through Wahiawa, delays to vehicles can sometimes be lengthy, but this is primarily a result of inefficient use of traffic lanes and lack of signal coordination.

Kaukonahua Highway. Kaukonahua Highway is a two-lane rural highway travelling between Wahiawa and the North Shore. Based on recent State counts, it carries an ADT of about 1,500 between Kamananui Road and Wilikina Drive and 9,400 vehicles north of Wilikina Drive. Due to these low daily traffic volumes, the Highway experiences no congestion. The posted speed on Kaukonahua Highway is 45 MPH in the area of the project.

H-2 Freeway. The H-2 Freeway provides a link between the South Shore, where it junctions with the H-1 Freeway, and Wahiawa. The H-2 Freeway terminates at Wahiawa with traffic continuing up Wilikina Drive to Kaukonahua Highway or travelling through Wahiawa on Kamehameha Highway. The freeway provides two travel lanes in each direction north of Meheula Parkway in Mililani, and three lanes in each direction south of Mililani. Based on recent State counts, the H-2 Freeway carries an ADT of about 44,300 vehicles. The H-2 Freeway operates with little congestion in the area of the Project.

Wilikina Drive. Wilikina Drive originates at the junction of Kamehameha Highway and the H-2 Freeway, and extends northeast to terminate at Kaukonahua Highway. Wilikina Drive provides access to Schofield Barracks and also provides an outlet for traffic using Kunia Road as an alternative to the H-2 Freeway. Between the H-2

Freeway and Macomb Gate to Schofield, Wilikina Drive provides four lanes of travel. North of Macomb Gate, Wilikina Drive provides two lanes.

Wilikina Drive carries daily traffic of about 41,800 vehicles between the H-2 Freeway and Kunia Road, 26,800 between Kunia Road and the Macomb/Funston Gates to Schofield Barracks, 15,100 between the Macomb/Funston Gates and Kamananui Road, and 7,900 vehicles between Kamananui Road and Kaukonahua Highway.

Wilikina Drive has posted speed limits of 25-35 MPH and experiences relatively uncongested operations. Peaking characteristics on Wilikina Drive are affected by Schofield Barracks and Wheeler Air Force Base (AFB). During shift changes, traffic on Wilikina Drive can be slightly more congested.

Kunia Road. Kunia Road is a two-lane highway travelling between the Ewa/Waipahu area and Wahiawa. Between the Wright Avenue Gate to Wheeler AFB and Wilikina Drive, Kunia Road provides four lanes of travel. It accommodates about 21,500 vehicles per day between the Foote Gate to Schofield and Wilikina Drive. As with Wilikina Drive, peaking characteristics on Kunia Road are affected by Schofield Barracks and Wheeler AFB.

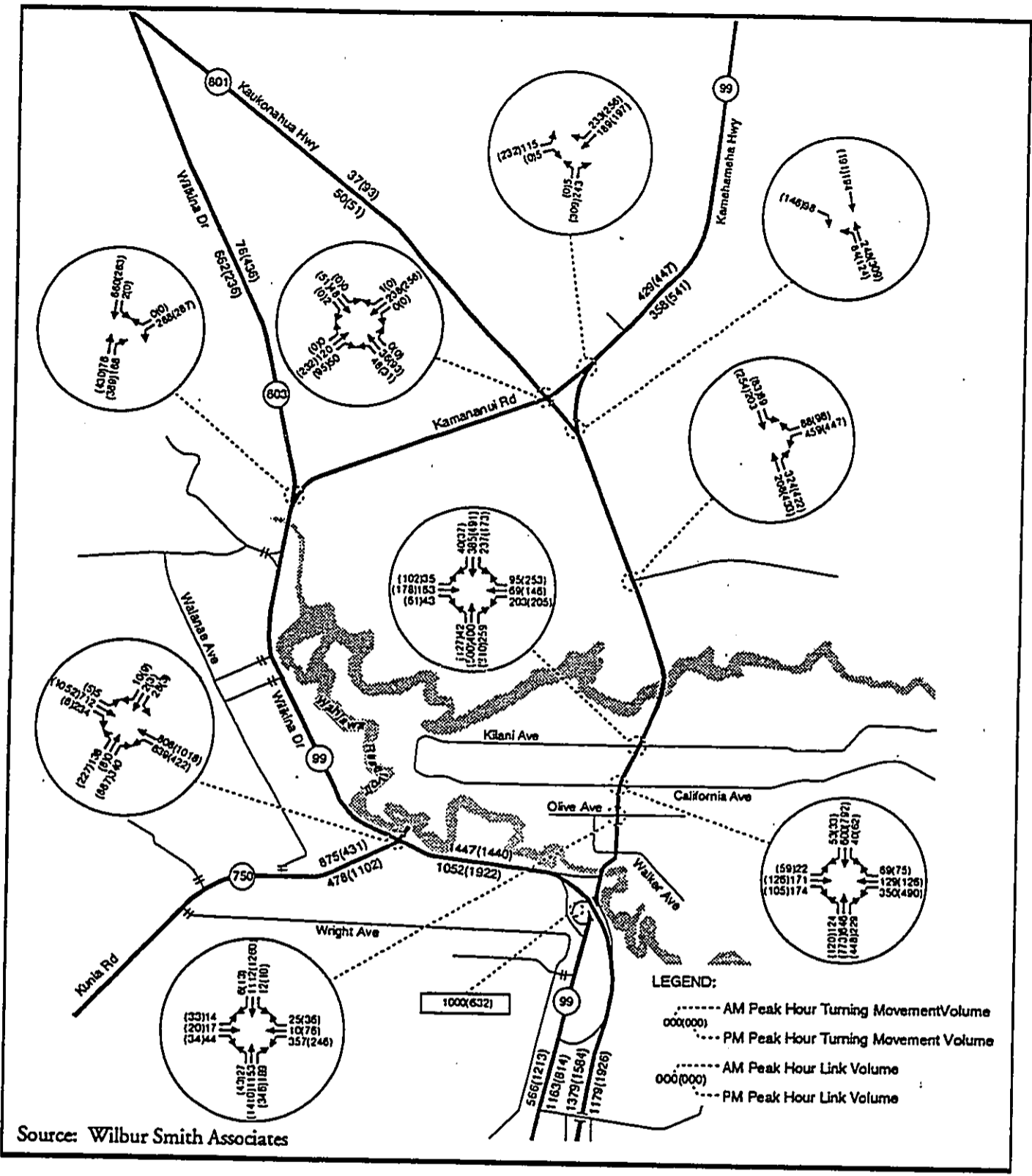
Kamananui Road. Kamananui Road is a two-lane rural highway with a posted speed limit of 45 MPH. It carries an estimated ADT of 7,500 vehicles. Kamananui Road operates at free flow speeds experiencing no congestion. Near Wilikina Drive, a turn in the roadway in combination with a change in elevation, result in reduced sight distances. This reduced sight distance could pose a safety concern at this location as traffic volumes along this segment increase.

Whitmore Avenue. Whitmore Avenue is a two-lane roadway which provides access from Kamehameha Highway to Whitmore Village and the Wahiawa Naval Radio Receiving Station. Whitmore Avenue does not provide through access to any other roads. The posted speed limit on Whitmore Avenue is 35 MPH and it carries an ADT of about 11,300 vehicles. No congestion was observed on Whitmore Avenue.

Traffic Operations Analysis. Methodologies used for traffic operations analysis for the project are described in Appendix K. The analysis studied existing weekday peak period traffic at several intersections and critical roadway segments in the project vicinity. Figure 14 shows the existing AM and PM peak hour weekday traffic volumes at the locations studied. Tables 4 and 5 show the results of existing conditions analysis at each of the locations.

As shown in Table 4, the existing operations at intersection locations with traffic signal controls are in the level of service (LOS)¹ C range indicating that little congestion occurs.

¹ Level-of-service (LOS) is a concept used by the Transportation Research Board, a division of the National Science Foundation. Different methodologies are available for analyzing freeways, highways, rural highways, unsignalized intersections, traffic signal controlled intersections, and freeway ramps. The LOS concept is used to describe facility operations on a letter basis from A to F, which signify excellent to unacceptable conditions, respectively. The methods generally compare travel demand (traffic volume) on a facility to the facility's theoretical capacity. The comparison of travel demand to capacity is referred to as a volume-to-capacity (V/C) ratio.



Existing AM and PM Peak Hour Traffic Volumes **Figure: 14**

WAHIAWA LANDS MASTER PLAN

Prepared For: Galbraith Trust Estate,
 Hawaiian Trust Company, Ltd., Trustee

Prepared By: Helber Hastert & Fee, Planners

Not to Scale

Table 4
EXISTING INTERSECTION OPERATIONS
Wahlaawa - Galbraith Lands Traffic Study

SIGNALIZED INTERSECTIONS	AM Peak Hour			PM Peak Hour		
	V/C Ratio	Delay (sec./veh.)	LOS	V/C Ratio	Delay (sec./veh.)	LOS
Kamehameha Highway/Olive Avenue	0.71	18.0	C	0.86	23.5	C
Kamehameha Highway/California Avenue	0.65	18.3	C	0.86	24.3	C
Kamehameha Highway/Kilani Avenue	0.66	15.2	C	0.83	20.6	C
Kamehameha Highway/Whitmore Avenue	0.44	16.4	C	0.56	15.3	C
Wilikina Drive/Kunia Road	0.32	19.0	C	0.45	22.4	C

UNSIGNALIZED INTERSECTIONS	AM Peak Hour		PM Peak Hour	
	Reserve Capacity	LOS	Reserve Capacity	LOS
Kamehameha Highway/Kamananui Road				
Kamananui EB right/left	119	D	31	E
Kamehameha NB left	563	A	681	A
Kaukonahua Highway/Kamananui Road				
Kaukonahua NB right/thru/left	317	B	209	C
Kaukonahua SB right/thru/left	411	A	289	C
Kamananui EB left	865	A	840	A
Kamananui WB left	945	A	768	A
Wilikina Drive/Kamananui Road				
Kamananui WB left	-7	F	-39	F
Kamananui WB right	945	A	535	A
Wilikina SB left	955	A	490	A

Source: Wilbur Smith Associates, October, 1992.

Table 5
EXISTING FREEWAY, HIGHWAY, AND ON-RAMP OPERATIONS
Wahlaawa - Galbraith Lands Traffic Study

	Estimated Capacity	AM Peak Hour			PM Peak Hour		
		Volume	V/C Ratio	LOS	Volume	V/C Ratio	LOS
Kamehameha Highway S of Wheeler AFB							
Northbound	3,800	1,163	0.31	B	814	0.21	A
Southbound	3,800	566	0.15	A	1,213	0.32	B
Wilikina btwn the H-2 Freeway and Kunia							
Northbound	3,800	1,447	0.38	B	1,440	0.38	B
Southbound	3,800	1,052	0.28	A	1,922	0.51	C
H-2 Freeway S of Wilikina							
Northbound	4,400	1,779	0.40	B	1,926	0.44	B
Southbound	4,400	1,379	0.31	A	1,584	0.36	B
SB On-Ramp to H-2 Freeway	1,408	1,000	0.71	N/A	632	0.45	N/A

Source: Wilbur Smith Associates, October, 1992.

Two of the unsignalized intersections in the area are experiencing long delays at the minor street approaches: westbound Kamananui Road left-turn to Wilikina Drive (LOS F during AM and PM peak hours) and eastbound shared right/left-turn movement from Kamananui Road to Kamehameha Highway (LOS D during AM peak hour and LOS E during PM peak hour).

As shown in Table 5, all of the critical roadway segments in the project vicinity are currently operating at LOS C or better.

Traffic Growth and Impacts without the Project

The proposed development could be completed by the year 2010. This section provides an analysis of future traffic operations without the project. The analysis reflects regional roadway improvements contained in existing plans. Increases in background traffic were based on the regional forecasts, which should be reflective of local area projects as well as regional through traffic. Specific increases in future background traffic volumes can be found in Appendix K.

Roadway Improvements. According to the Oahu Regional Transportation Plan, Kamehameha Highway is planned to provide four lanes with left-turn pockets at intersections for the two-lane section between Wahiawa and Haleiwa. Other improvements which may indirectly affect traffic operations in the area of the project include:

- widening of Kunia Road
- construction of a Haleiwa Bypass
- additional lane to the H-2 Freeway between Mililani and the H-1 Freeway

It was assumed that signal timings would be adjusted to reflect changing demand, where warranted.

Traffic Operations. Tables 6 and 7 present future traffic service levels in the year 2010 without the project. Table 6 shows projected intersection operations. Operational deficiencies were found at the following intersections studied during one or both of the peak hours:

- Kamehameha Highway/Olive Avenue
- Kamehameha Highway/California Avenue
- Kamehameha Highway/Kamananui Road
- Wilikina Drive/Kamananui Road

Table 7 shows the future service levels without the project for several roadway segments and the on-ramp to H-2. All the roadway segments would operate at LOS C or better. The southbound on-ramp to H-2 from Kamehameha Highway, however, would experience some operational difficulties during the AM peak hour. While traffic would continue to move at normal speeds, congestion on the ramp would be noticeable.

Future Traffic Conditions with the Project

This section presents traffic projections and analysis for the year 2010 with the addition of project traffic.

Table 6
INTERSECTION CONDITIONS FOR THE YEAR 2010 WITHOUT THE PROJECT
Wahiawa – Galbraith Lands Traffic Study

SIGNALIZED INTERSECTIONS	AM Peak Hour			PM Peak Hour		
	V/C Ratio	Delay (sec./veh.)	LOS	V/C Ratio	Delay (sec./veh.)	LOS
Kamehameha Highway/Olive Avenue	0.90	30.3	D	1.03	64.0	F
Kamehameha Highway/California Avenue	0.92	30.0	D	1.22	-- (1)	F
Kamehameha Highway/Kilani Avenue	0.80	20.5	C	0.78	16.1	C
Kamehameha Highway/Whitmore Avenue	0.61	14.9	B	0.69	19.2	C
Wilikina Drive/Kunia Road	0.35	24.0	C	0.55	29.9	D

UNSIGNALIZED INTERSECTIONS	AM Peak Hour		PM Peak Hour	
	Reserve Capacity	LOS	Reserve Capacity	LOS
Kamehameha Highway/Kamananui Road				
Kamananui EB right/left	1	E	-186	F
Kamehameha NB left	460	A	450	A
Kaukonahua Highway/Kamananui Road				
Kaukonahua NB right/thru/left	244	C	104	D
Kaukonahua SB right/thru/left	348	B	219	C
Kamananui EB left	840	A	815	A
Kamananui WB left	918	A	745	A
Wilikina Drive/Kamananui Road				
Kamananui WB left	-180	F	-198	F
Kamananui WB right	890	A	400	A
Wilikina SB left	885	A	360	B

(1) Delay and level-of-service are meaningless when any V/C ratio exceeds 1.2.

Source: Wilbur Smith Associates, October, 1992.

Table 7
FREEWAY, HIGHWAY, AND ON-RAMP CONDITIONS FOR THE YEAR 2010 WITHOUT THE PROJECT
Wahiawa – Galbraith Lands Traffic Study

	Estimated Capacity	AM Peak Hour			PM Peak Hour		
		Volume	V/C Ratio	LOS	Volume	V/C Ratio	LOS
Kamehameha Highway S of Wheeler AFB							
Northbound	3,800	1,239	0.33	B	946	0.25	A
Southbound	3,800	650	0.17	A	1,399	0.37	B
Wilikina btwn the H-2 Freeway and Kunia							
Northbound	3,800	1,615	0.43	B	1,669	0.44	B
Southbound	3,800	1,185	0.31	B	2,228	0.59	C
H-2 Freeway S of Wilikina							
Northbound	4,400	2,089	0.47	B	2,376	0.54	B
Southbound	4,400	1,764	0.40	B	2,068	0.47	B
SB On-Ramp to H-2 Freeway	1,408	1,274	0.90	N/A	794	0.56	N/A

Source: Wilbur Smith Associates, October, 1992.

Roadway Improvements. No additional roadway improvements beyond those discussed in the previous section were assumed in the analysis except at the project's access points.

Several modifications were assumed at the intersection of Kamehameha Highway/Whitmore Avenue including the following:

- the eastbound approach was assumed to provide three approach lanes (right-turn, through lane, and left-turn)
- an additional left-turn lane was assumed at the westbound approach to the intersection; and
- a new signal was assumed which operates with four phases providing protected left-turn phases.

No modifications were assumed on Kamehameha Highway except for the improvement discussed above of adding two through lanes.

At the access points other than Kamehameha Highway/Whitmore Avenue, it was assumed that left-turn pockets would be provided on Kamehameha Highway and Kamananui Road. In addition, right-turn lanes were assumed on Kamananui Road at the two access points. At the new access point on Whitmore Avenue east of Kamehameha Highway, left-turn lanes would not be necessary on Whitmore Avenue but may be desirable in order to allow for shorter delays for through traffic. Two-lane approaches were assumed at the new intersection approaches created by the project. Two-lane approaches were assumed at the new intersection approaches created by the project.

Traffic Operations. Tables 8 and 9 show traffic service levels with the project for the year 2010. As Table 8 shows, four of the five signalized intersections would function at LOS F during one or both of the peak hours. In addition to the Kamehameha Highway/Olive Avenue and Kamehameha Highway/California Avenue intersections, which would operate at LOS F during the PM peak hour even without the project, the Kamehameha Highway/Kilani Avenue intersection and Wilikina Drive/Kunia Road intersection would operate at LOS F during one or both of the peak hours. All three of the unsignalized intersections would have failing movements.

All of the roadway segments would continue to operate within acceptable parameters, although the southbound on-ramp to H-2 from Kamehameha Highway would operate at 96 percent of capacity during the AM peak hour.

If Kamehameha Highway remains only two lanes, Kamehameha Highway would have the capacity to accommodate all cumulative and project traffic within each segment of the roadway between Kilani Avenue and Kamananui Road, although the segment between Kilani Avenue and Whitmore Avenue would approach capacity. The intersection of Kamehameha Highway at Whitmore Avenue, however, could not accommodate year 2010 background and project traffic without the widening of Kamehameha Highway between Kilani Avenue and Whitmore Avenue.

Segments of Kamehameha Highway north of Whitmore Avenue would function adequately and all intersections to the north would also function adequately. A two-lane Kamehameha Highway would be sufficient in these segments.

Table 8
INTERSECTION CONDITIONS FOR YEAR 2010 WITH THE PROJECT
Wahiawa - Galbraith Lands Traffic Study

SIGNALIZED INTERSECTIONS	AM Peak Hour			PM Peak Hour		
	V/C Ratio	Delay (sec./veh.)	LOS	V/C Ratio	Delay (sec./veh.)	LOS
Kamehameha Highway/Olive Avenue	0.98	74.3	F	1.14	-- (1)	F
Kamehameha Highway/California Avenue	1.20	-- (1)	F	1.44	-- (1)	F
Kamehameha Highway/Kilani Avenue	1.97	-- (1)	F	2.87	-- (1)	F
Kamehameha Highway/Whitmore Avenue	0.87	21.8	C	0.94	33.5	D
Wilikina Drive/Kunia Road	0.55	51.0	E	0.81	-- (1)	F

UNSIGNALIZED INTERSECTIONS	AM Peak Hour		PM Peak Hour		
	Reserve Capacity	LOS	Reserve Capacity	LOS	
Kamehameha Highway/Kamananui Road	Kamananui EB right/left	-86	F	-321	F
	Kamehameha NB left	387	B	379	B
Kaukonahua Highway/Kamananui Road	Kaukonahua NB right/thru/left	78	E	-75	F
	Kaukonahua SB right/thru/left	230	C	103	D
	Kamananui EB left	768	A	745	A
	Kamananui WB left	865	A	644	A
Wilikina Drive/Kamananui Road	Kamananui WB left	-1135	F	-1266	F
	Kamananui WB right	563	A	208	C
	Wilikina SB left	378	B	160	D

(1) Delay and level-of-service are meaningless when any V/C ratio exceeds 1.2.

Source: Wilbur Smith Associates, October, 1992.

Table 9
FREEWAY, HIGHWAY, AND ON-RAMP CONDITIONS FOR THE YEAR 2010 WITH THE PROJECT
Wahiawa - Galbraith Lands Traffic Study

	Estimated Capacity	AM Peak Hour			PM Peak Hour			
		Volume	V/C Ratio	LOS	Volume	V/C Ratio	LOS	
Kamehameha Highway S of Wheeler AFB	Northbound	3,800	1,534	0.40	B	1,302	0.34	B
	Southbound	3,800	965	0.25	A	1,763	0.46	B
Wilikina btwn the H-2 Freeway and Kunia	Northbound	3,800	1,999	0.53	C	2,134	0.56	C
	Southbound	3,800	1,598	0.42	B	2,692	0.71	D
H-2 Freeway S of Wilikina	Northbound	4,400	2,450	0.56	C	2,813	0.64	C
	Southbound	4,400	2,150	0.49	B	2,514	0.57	C
SB On-Ramp to H-2 Freeway	1,408	1,354	0.96	N/A	898	0.64	N/A	

Source: Wilbur Smith Associates, October, 1992.

Tables C and D (attached in Appendix K) show the segment and intersection conditions, respectively, with Kamehameha Highway as a two-lane facility north of Kilani Avenue.

H-2 Freeway. The project engineer performed an analysis of the project's traffic increases and impact on service level along the H-2 Freeway. The sections of the H-2 Freeway north of the Waipio Interchange are expected to operate at acceptable levels both with and without the project. However, traffic operations are expected to operate Level of Service (LOS) F at the southern end of the H-2 Freeway either *with or without the project*. The estimate project traffic, which amounts to approximately 400 vehicles in the peak travel direction during both the AM and PM peak hours, would increase the volume-to-capacity ratios on this segment by 0.05 in each hour.

Internal Circulation

Figure 15 shows traffic volumes internal to the project and at access points.

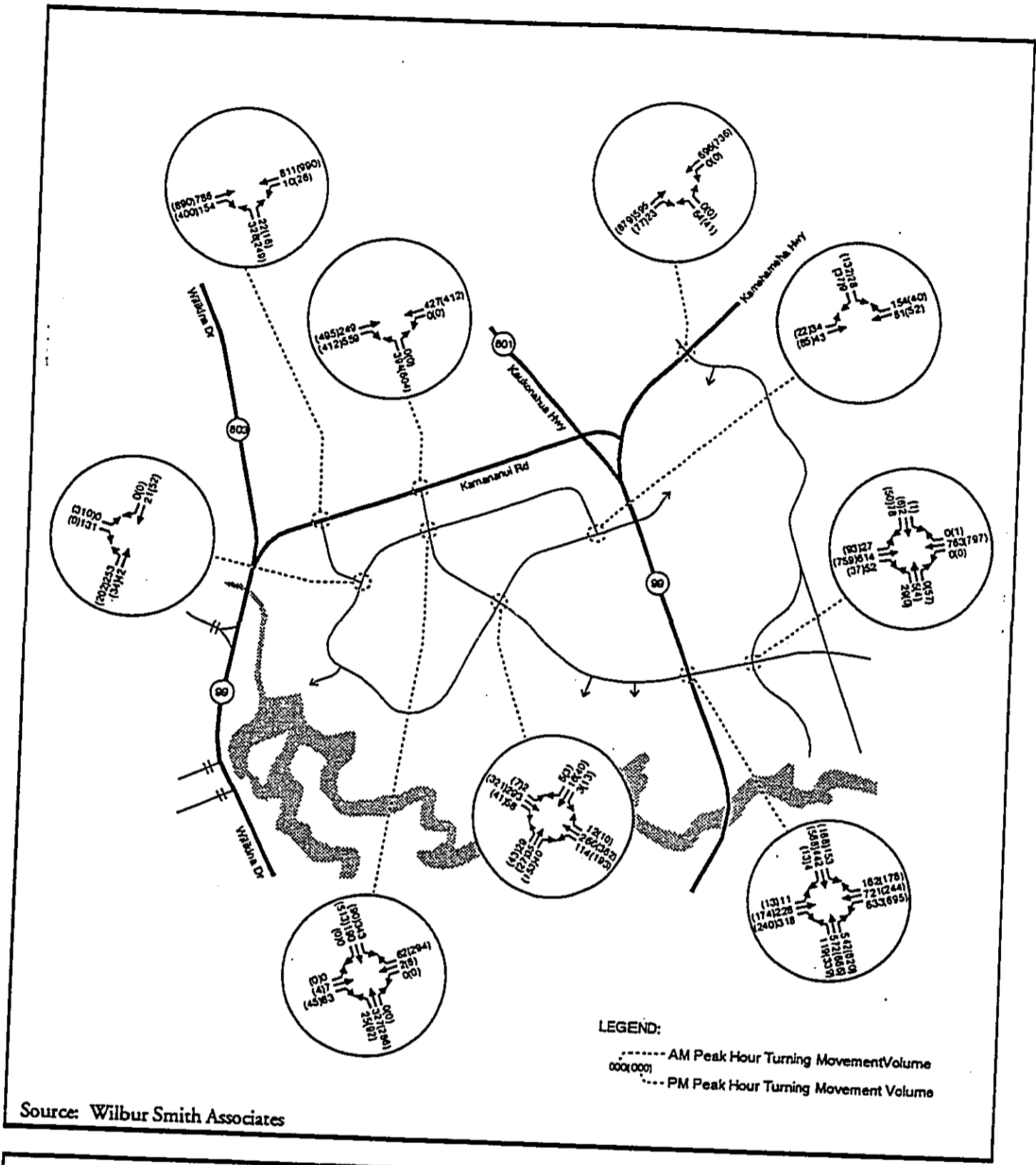
The percentages of internal trips listed in the traffic study (Appendix K) are for the trip ends for specific land uses. When the numbers of trips for the various land uses are combined and adjusted so as not to double count the trip by counting both ends of the internal trip, the proportion of trips which remain internal to the project approximate 15 percent of total trips. This percentage is attributed to the mix of land uses proposed for the project area.

Standard accepted trip rates from the Institute of Transportation Engineers *Trip Generation Fifth Edition* and the SANDAG's *San Diego Traffic Generators* were used to derive peak period trips. The rates are based on data gathered across the United States. Although local behavior could result in slightly different trip generation characteristics for specific land uses, the national rates are generally reflective of conditions on Oahu.

The proposed plan includes a large amount of office, retail and other non-residential uses, which increases the proportion of internal trips as project area residents travel to these internal uses for work, shopping and business purposes. As an example, the PM peak hour trips generated by the planned uses are almost balanced between residential (55 percent) and non-residential (45 percent). Thus, a higher proportion of resident trips would remain within the project area than is typical for other suburban communities on Oahu.

Current commute to work patterns from Central Oahu show that about a third of the work or work-linked trips are made within Central Oahu. The remaining two-thirds are made to and from areas outside Central Oahu. This indicates that employment opportunities within Central Oahu are not great enough to support Central Oahu employment demand. The proposed development would add significant employment opportunities, and it is reasonable to assume that the employment component would offer an attractive opportunity to draw new residents to the development area, who would also prefer to work close to their residence location. This provides further support for using a slightly higher internal trip percentage for the residential component of the project.

All new access points, with one exception, would require signalization. The access point on Kamehameha Highway north of Kamananui Road could function as an




Internal Circulation and Access Point Volumes Figure: 15

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 Not to Scale

unsignalized intersection, although this would result in LOS E operations on the minor street (access road) approach.

All access point intersections are expected to operate at LOS C or better, with most operating at LOS A and B, except the intersection of Kamehameha Highway/Whitmore Avenue, which would operate at LOS D during the PM peak hour. The addition of signals in the area of the project would result in longer delays for through traffic on Kamehameha Highway and Kamananui Road.

The traffic volume forecast for roadways internal to the project are consistent with the capacity of two-lane roadways. Signalized intersections would be desirable at the two new intersections on Whitmore Avenue between Kamananui Road and Kamehameha Highway. All other intersections could function as STOP-controlled intersections. Streets and roadways that will be dedicated to the City will be improved in accordance with City standards. Access improvements for pedestrians and persons with disabilities will conform to the Uniform Federal Accessibility Standards.

Mitigation Measures

This section describes potential mitigation measures that would be necessary for future conditions, both for future conditions without the project and future conditions with the project.

Future without project. Under future conditions without the project, Kamehameha Highway would experience operational problems through Wahiawa during the PM peak hour. In addition, the *unsignalized intersections of Kamehameha Highway/Kamananui Road and Wilikina Drive/Kamananui Road* would experience significant congestion. Mitigation for these conditions are listed below:

<u>Location</u>	<u>Improvement(s)</u>
Kamehameha Highway/Olive Avenue	- Add a westbound left-turn lane on Olive Avenue within the existing roadway width - Restrict on-street parking to accommodate the left-turn lane
Kamehameha Highway/California Avenue	- Restripe Kamehameha Highway lanes - Restripe the westbound California Avenue approach - Restrict on-street parking
Kamehameha Highway/Kamananui Road	- Install a northbound acceleration lane
Wilikina Drive/Kamananui Road	- Install traffic signal

Future conditions with the project. Operational problems on Kamehameha Highway would be exacerbated by the addition of project-generated traffic. In addition, operations on Wilikina Drive would be worsened significantly by the project. Increased traffic in the area of the project would substantially increase traffic delays at all of the unsignalized intersection. Additional mitigation measures, beyond those described for future conditions without the project are listed below:

<u>Location</u>	<u>Improvement(s)</u>
Kamehameha Highway/Olive Avenue	- Restrict northbound and southbound left-turn movements during the PM peak period (3:30 to 6:30 PM)
Kamehameha Highway/California Avenue	- Modify signal phasing
Kamehameha Highway/Kilani Avenue	- Add a westbound right-turn lane - Restrict on-street parking - Modify signal phasing
Kamehameha Highway/Kamananui Road	- Install traffic signal
Wilikina Drive/Kunia Road	- Add a second northbound left-turn lane - Add a third-southbound through lane
Wilikina Drive/Kamananui Road	- Add a second westbound left-turn lane - Add a second southbound through lane
Kaukonahua Highway/Kamananui Road	- Add an eastbound acceleration lane
Wilikina Drive	- Widen the segment between Kunia Road and H-2 to five lanes (three southbound and two northbound) - Widen the segment from the McNair Gate to Kamananui Road to four lanes
Kamananui Road	- Widen the segment between Wilikina Drive and the project's western-most access point to four lanes

Table 10 shows the traffic operations at various locations with the implementation of mitigation measures for year 2010 conditions with the project. With the mitigation described above, both signalized and unsignalized intersections studies would operate at acceptable levels of service. The developer will provide its fair share of roadway improvements, commensurate to the impact of the project on the existing roadway system. Specific improvements and timing of these improvements will be determined in consultation with the State Department of Transportation (DOT).

Plans for construction work within the State highway right-of-way will be submitted to DOT for review and approval.

H-2 Freeway. Mitigation of Year 2010 freeway conditions could be accomplished by widening the H-2 Freeway from four lanes in each direction to five between the Waipio Interchange and the Waiawa Interchange. With this widening, all freeway segments would operate at LOS E or better. It should be noted that this mitigation would be necessary with or without the proposed project. Alternatively, increased transit use, rideshare programs, telecommuting, increased emphasis on employment uses, and other transportation systems management action could be used to reduce the forecast traffic levels to within the planned capacity of the H-2 Freeway.

Table 10 MITIGATED INTERSECTION CONDITIONS FOR YEAR 2010 WITH THE PROJECT Wahiawa - Galbraith Lands Traffic Study									
SIGNALIZED INTERSECTIONS	AM Peak Hour			PM Peak Hour					
	V/C Ratio	Delay (sec./veh.)	LOS	V/C Ratio	Delay (sec./veh.)	LOS			
Kamehameha Highway/Olive Avenue	0.86	23.3	C	0.78	11.7	B			
Kamehameha Highway/California Avenue	0.75	19.9	C	0.81	22.1	C			
Kamehameha Highway/Kilani Avenue	0.75	32.9	D	0.89	32.2	D			
Kamehameha Highway/Whitmore Avenue	0.87	21.8	C	0.94	33.5	D			
Wilikina Drive/Kunia Road	0.58	21.7	C	0.82	28.7	D			
Kamehameha Highway/Kamananui Road	0.40	5.2	B	0.63	8.3	B			
Wilikina Drive/Kamananui Road	0.77	21.6	C	0.89	24.2	C			
UNSIGNALIZED INTERSECTIONS	Reserve Capacity	LOS	Reserve Capacity	LOS					
Kaukonahua Highway/Kamananui Road	318	B	126	D					
Kaukonahua NB right/thru/left	230	C	103	D					
Kaukonahua SB right/thru/left	788	A	745	A					
Kamananui EB left	865	A	844	A					
Key: <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>0.77</td> <td>21.6</td> <td>C</td> </tr> </table> -- shading indicates conditions after mitigation.							0.77	21.6	C
0.77	21.6	C							

Source: Wilbur Smith Associates, October, 1992.

Interim Year Analysis

The traffic impact analysis report also included an analysis of what mitigation would be necessary by completion of Phase I of the project (1988 conditions). Assumptions used in the analysis included construction of 500 multi-family units, 100 single-family units, a 10-acre business center, one-acre of neighborhood commercial, and a variety of other uses including an elementary school, parks, civic uses, and a park-and-ride lot. Scheduling of subsequent phases of the development will be based on future market conditions and infrastructure availability. This future phasing will provide the basis for determining an implementation schedule for corresponding roadway improvements.

For year 1998 conditions with Phase I of the Project, three mitigation measures would be necessary. Of the three measures, the first item (restriping westbound approach to Kamehameha Highway/California Avenue intersection) would be necessary with or without the project in the year 1998. The other two items would be expected to mitigate impacts created by the project.

1. Restripe the westbound approach to the intersection of Kamehameha Highway/California Avenue to provide a single right/through lane and two left-turn lanes. No additional roadway width would be necessary for this mitigation. With this modification, the intersection would function at LOS C during both peak hours.
2. The intersection of Wilikina Drive/Kamananui Road would require signalization. No additional mitigation would be necessary beyond signalization and the intersection would function at LOS B during both peak hours when signalized.

3. A westbound left-turn bay and an eastbound deceleration lane for right-turning vehicles should be provided at the project's access road intersection with Kamananui Road. Even with these lanes, the left-turn movement from the project's access road would experience LOS E conditions during the PM peak hour. Peak hour volumes suggest that the intersection might meet signal warrants by the year 1998 with Phase I of the project. Traffic volumes at this intersection should be monitored to determine if the intersection would satisfy traffic volume warrants. The intersection should be signalized when it has met warrants.

Public Transit

There are currently two transit routes which directly serve the project area -- Route 52 Wahiawa Circle Island and Route 72 Schofield-Wahiawa-Whitmore. Route 52 operates along Kamehameha Highway in the project area but circles the island providing access to the employment centers on the south shore and to the north shore. The bus runs every 30 minutes during the morning, midday, and afternoon periods. Route 72 currently operates between Wahiawa and Whitmore Village within the project area, and also serves Schofield Barracks. It operates on a 40-minute frequency.

Based on existing travel behaviors within Central Oahu, about 3.4 percent of the external home-based work trips and 6.9 percent of home-based other trips would be accomplished using The Bus². Assuming the same travel behaviors in the project area, the project would generate about 612 daily transit trips, 56 AM peak hour transit trips, and 71 PM peak hour transit trips from its housing, retail, school, civic, and park components. In addition, some transit trips would be generated by the employment-based land uses.

This number of new transit trips could impact the level of transit service, but the real project impact on transit would be the need to serve the project area more directly with transit. This may not necessitate the provision of a new or expanded transit route within the project area. Discussion with the Honolulu Public Transit Authority during the planning phase indicated that the Authority was not studying any new routes for this area at that time.

Based on consultation with Honolulu Public Transit Authority staff, the applicant has proposed the construction of a five-acre park-and-ride lot within the project area. This lot would provide 500 or more parking spaces. In addition, based on a review of the development plan, the internal roadway design would allow for convenient access by buses. No determination of appropriate transit routes or potential transit stops has been made yet, as it would be inappropriate to attempt to generate this type of precise data at this stage of the project.

6.2 Water Supply

Sam O. Hirota, Inc. prepared civil engineering reports, which are included as Appendix L. The water supply section is summarized below.

² SMS Research, *Comprehensive Home-End Travel Needs Survey for the Ewa-Central Oahu Region*.

Existing Conditions

There is no existing potable water service to the project site although a small pipe line of varying sizes crosses the area to serve Poamoho Village. The 12-inch Board of Water Supply (BWS) water main from Wahiawa to Whitmore Village passes to the east of the proposed site.

The water supply for the adjoining Wahiawa town and Schofield Barracks comes from deep wells and by piped distribution systems operated by the Board of Water Supply and the U.S. Army, respectively. Reservoirs for water storage exist in both these areas. There are four reservoirs in the BWS Wahiawa distribution system with a total capacity of 5.0 million gallons (MG).

Irrigation of the existing pineapple fields is usually accomplished by temporary or portable sprinkler systems. The water source is an artesian well located in the northeast part of the Galbraith Estate lands outside of the area of application. The capacity of this well is 2,000 gallons per minute (GPM). The well is not in the area proposed for development.

Impacts

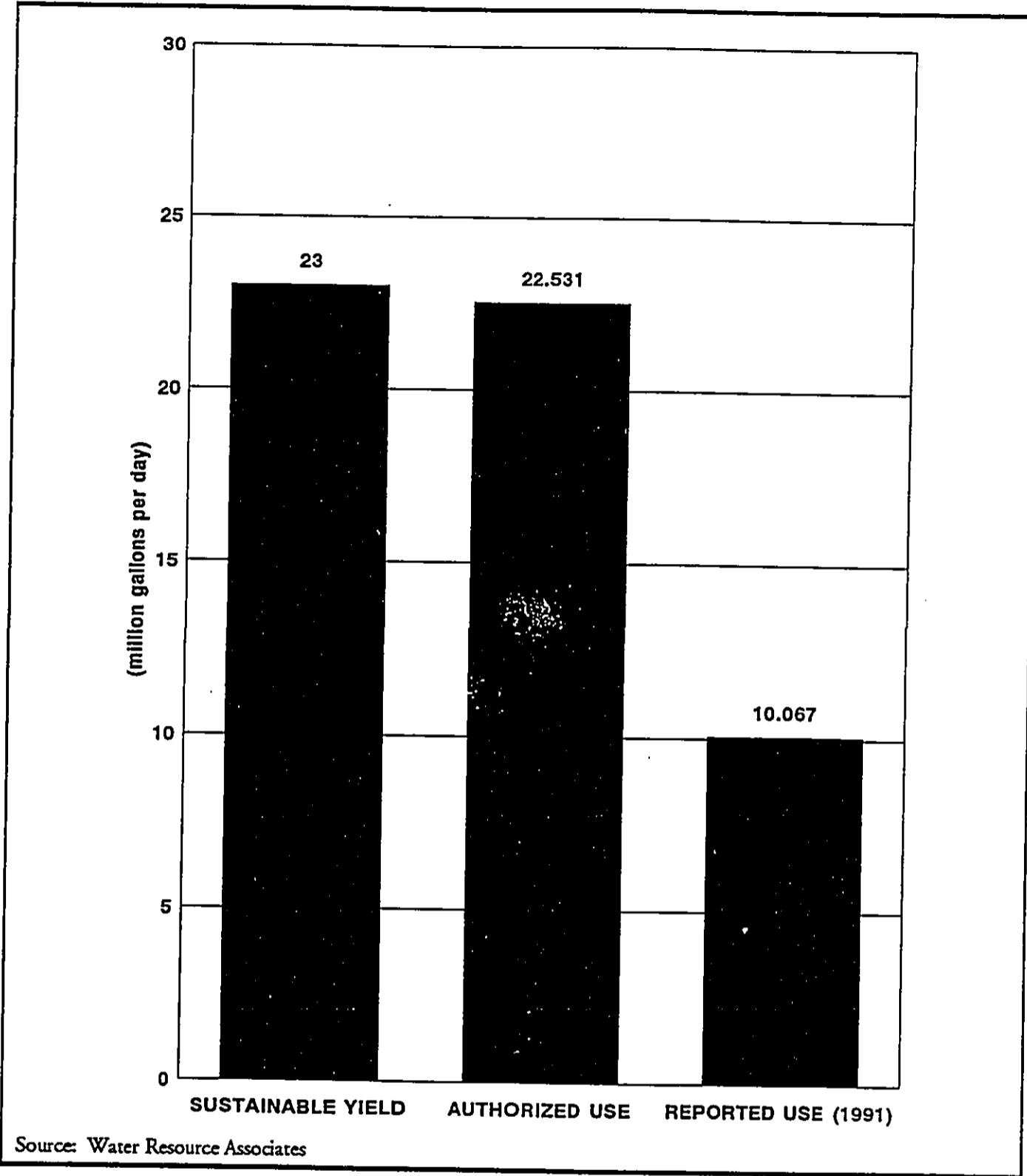
Domestic Potable Water Supply. The BWS has advised that the developer will be required to install a complete new water system including a water source, reservoirs, and pipelines for the proposed development. The BWS also stated that it has no objection to the proposal. Water Resource Associates, a consulting hydrology firm, has been engaged to prepare a report on the development of a new water source(s) for the development. This report is included as Appendix B, and discussed in Section 4.4, Water Resources.

The average daily potable water requirement for the proposed development is estimated by BWS standards to be 2.9 million gallons per day (MGD).

The availability of groundwater to meet the project's potable water requirements depends on the regulations of the State Commission on Water Resource Management (CWRM), because all of the aquifers of Central Oahu have been designated as water management areas for the control of groundwater use and development. Hydrologically, however, groundwater can be readily developed from wells tapping the high level aquifer that underlies the project site and the Wahiawa Plateau.

The CWRM regulates groundwater use in water management areas primarily by establishing the sustainable yield and issuing water use permits for each well source within an aquifer. The Wahiawa Aquifer, in which the project site is located, has an established sustainable yield of 23.0 mgd and permits have been issued for a total authorized use of 22.531 mgd, leaving a balance of only 0.469 mgd of unallocated water use, which is available through the issuance of a water use permit assigned to an existing or new well source.

However, to have water for the project, the CWRM must first adjust (lower) the authorized water use of wells in the Wahiawa Aquifer by reason of partial or total nonuse for a period of four continuous years or more. The Commission has taken such actions in the Pearl Harbor Hydrologic Sector where existing authorized uses and requested new water uses have exceeded the sustainable yield. As shown in Figure 16, the actual water use (1991) reported to the CWRM in the Wahiawa Aquifer totals 10.067 mgd, or 12.464 mgd less than the authorized use. Thus, groundwater for the



Water Supply and Use - Wahiawa Aquifer System Figure: 16

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proposed project could possibly be made available from the CWRM by applying for a new water use permit. According to comments by the CWRM, the Commission staff is aware of the water use situation and is reviewing the current permitted allocation to determine whether an adjustment of the allocation figure is in order. Ensuing CWRM action may result in an increase in the unallocated aquifer supply, in which event, water might become available for the Wahiawa Lands Development project. This will be determined by the CWRM.

The potable water distribution system will be designed and installed with Department of Health Administrative Rules and BWS standards. It is anticipated that major phases of the water distribution system will be dedicated to the City, upon acceptance by the BWS.

It is anticipated that the potable water distribution system for the proposed development will include two reservoirs: one with a capacity of 2.0 MG and the other with a capacity of 1.5 MG. The BWS requires that reservoirs be located at least 100 feet higher than the highest elevation and 190 feet above the lowest elevation in the area to be served. Reservoir spillways should be at the same elevation, with minimum and maximum allowable water system pressures of 40 psi and 125 psi, respectively. Both reservoirs would have to be located off-site, at a minimum elevation of 1,085 feet. A possible location for these reservoirs would be on Whitmore Avenue east of Whitmore Village. The proposed reservoirs would probably be constructed of reinforced concrete.

The two reservoirs would be interconnected to assure an uninterrupted water supply in case service is disrupted. Booster pumps would be provided to pump water from the source to the upper reservoir and where required to pump water from one reservoir to another. Booster pumps are not permitted in the distribution system. Pump stations will be equipped with electric pumps. Design of the pump stations can be coordinated with the Navy to mitigate any adverse effects to the CDAA.

Irrigation Water Supply. It is expected that non-potable water will be used to irrigate the golf course fairways and large landscaped area. The non-potable water would consist of storm water runoff and treated effluent which has received a tertiary level of treatment from the wastewater treatment plant (WWTP). The use of tertiary treated effluent for landscape irrigation will be coordinated with the State Department of Health to avoid contamination of groundwater resources in the area. Irrigation of the golf course will not involve channelization of the adjacent Poamoho or Kaukonahua Streams, nor diversion of any waters of these streams. The golf course could incorporate artificial lakes to improve aesthetics and provide storage for runoff and irrigation water. The lakes would be lined to prevent contamination of any ground water. The water quality of the treated irrigation water will be comparable to the quality (in terms of chlorides and nitrates) of the underlying groundwater.

Some storm runoff would be directed into the artificial golf course lakes for storage and release as needed. The stormwater in the lakes will mix with treated wastewater effluent to improve the quality of irrigation water. The remaining stormwater runoff would drain into Wahiawa Reservoir. A permit from the CWRM will be required for any stream channel alteration or amendment of the prevailing instream flow standard for any streamwater diversions proposed from the Commission.

The average rainfall in the project area is about 50 inches a year. The quantity of irrigation water required in addition to rainfall to irrigate the golf course fairways and landscaped areas is estimated at 0.78 MGD.

The domestic and irrigation water systems would be physically separated to prevent cross-connections and backflow conditions. The operation and maintenance of the distribution for non-potable irrigation water would remain the responsibility of the developer. BWS-approved reduced pressure principle backflow prevention assemblies should be installed on the domestic water lines immediately after the property valves of all parcels served by the nonpotable water system.

6.3 Wastewater

Existing Conditions

There are presently no wastewater collection systems or treatment facilities at the project site. However, the City is currently constructing a 15-inch sewer line to convey some of the effluent from the Whitmore Village WWTP to the larger Wahiawa facility. This new sewer line is being laid on public property along Whitmore Avenue and Kamehameha Highway, partly within the project site.

Collection and treatment facilities exist to serve the nearby Wahiawa town, Whitmore Village and Schofield Barracks. The Wahiawa and Whitmore Village treatment plants and collection systems are owned and operated by the City and County of Honolulu while the Schofield facilities belong to the Army.

According to a report prepared by the Honolulu Department of Public Works and the Hawaii State Department of Health ("Water Quality Management Plan for the City and County of Honolulu", September 1990), waters from Kaukonahua Stream have been impounded in Wahiawa Reservoir since 1906 by Waiialua Sugar Company for the irrigation of its mauka sugar cane fields. In addition to irrigation, the reservoir is used for recreation, fish propagation and wastewater reclamation. The reservoir serves as receiving waters for secondary treated effluent discharged into the South Fork from Wahiawa WWTP, and from the Whitmore Village WWTP into the North Fork.

The Water Quality Management Report cites studies by the University of Hawaii Water Resources Research Center for the City and County as indicating that the reservoir may be in an eutrophic condition, with the principal sources of nutrients being wastewater effluent and storm runoff.

The treated effluent from both the Wahiawa and Whitmore Village plants flow into the Wahiawa Reservoir, and the treated effluent from the Army WWTP is discharged into a Waiialua Sugar Company irrigation ditch. This ditch receives its water from the reservoir so that sewerage effluent from all three plants is diluted with storm runoff and used for the irrigation of sugar cane. The high level of nutrients in this irrigation water has, however, caused some concern in that it can cause premature tasseling of the sugar cane.

The Department of Health has issued a memorandum to the Wastewater Division of the City and County of Honolulu requiring them to stop discharging effluent into the lake by 1994. In recognition of this edict, the City's Division of Wastewater Management has hired a consultant, Calvin Kim, to conduct a study of possible alternatives.

Impacts

The City Division of Wastewater Management has advised that they are not prepared to make any definite recommendations for handling wastewater from the proposed

development at this time. They noted, however, that a private wastewater treatment system may be an option provided it is approved by the State Department of Health (DOH). The entire project will be sewerred and therefore there are no cesspools planned.

The DOH has instructed the applicant that use of a private wastewater treatment works or a single individual wastewater system may be allowed provided that connection to the public sewer is denied due to inadequate sewer or treatment capacity and the following conditions are met:

- A. The county has appropriated funds for the construction of necessary wastewater project to correct the situation;
- B. The county allocates or commits wastewater capacity to the project in question;
- C. The development constructs a dry sewer line or lines to the collection system in anticipation of connection once the county wastewater projects are completed; and
- D. The private wastewater facility is abandoned and connection to the public sewer is made upon notification by the county or Department of Health.

The average daily wastewater estimated to be generated by the development is 1.5 MGD excluding groundwater infiltration. The composition of this wastewater should be typical of that from any domestic source.

According to the project civil engineer, estimates of wastewater to be generated and infiltration/inflow (I/I) were based on published City and County, Department of Public Works, Division of Wastewater Management (DWWM) Standards. As reported in Appendix E of the civil engineering report, the estimated amounts of dry and wet weather I/I are 0.34 mgd and 0.62 mgd, respectively. These estimates are conservative, and account for average wear and aging of the system.

The 4.61 mgd tertiary treatment plant requirement was estimated by the use of DWWM standards cited above, and based on the design maximum flow. The capacity of the transmission pipes is based on the design peak flow.

A private WWTP is proposed to be located along Kaukonahua Stream adjacent and west of Wilikina Drive, which would allow gravity flow to the plant with a minimum requirement for sewage pumping stations. A lift (pump) station and force main will be required to move the wastewater collected from the most northern part of the development to a connection with a gravity system on higher ground. The pump station and force main would likely be owned by a community association and operated by a private contractor. These facilities will be designed and constructed according to City standards.

The previously mentioned study to devise alternatives to dumping effluent into Wahiawa Reservoir is expected to recommend a treatment method, such as tertiary treatment, that would be acceptable for discharging effluent into Wahiawa Reservoir. The proposed development will require a 4.61 MGD tertiary treatment plant for processing the anticipated quantity of wastewater. A plant of this size would require a 4 to 4-1/2 acre site. The design of the treatment plant will be subject to the approval of the Department of Health and Department of Wastewater Management. The applicant will continue to work closely with the State Department of Health, the City's new

Department of Wastewater Management, and the Army in planning for a regional wastewater treatment system which meets the needs of the growing Central Oahu region. Figure 17 shows the proposed sewer system.

The WWTP need not generate objectionable odor as long as it is properly designed, operated and maintained. Enclosing the pumps, blowers and all or portions of the plant underground together with proper grading and landscaping would reduce the noise and visual impact of the facility.

The treated effluent from the WWTP that is discharged into Wahiawa Reservoir or used for irrigation purposes would have to meet strict DOH requirements, and the solids that are removed in the treatment process would be hauled to an approved disposal site. The quantity of effluent that could be used for project irrigation is estimated to be 0.78 MGD. This is less than the estimated design maximum flow of 4.61 MGD.

A collection system would be provided to convey wastewater generated at the development to the WWTP. This system could be designed to meet City standards and dedicated to the City.

Discharge of the tertiary treated effluent will reduce the inorganic nutrient loading in the reservoir. The Department of Land and Natural Resources Division of Aquatic Resources (DAR) manages the public fishery, and has stated that it would not object to the discharge of tertiary level treated wastewater into the reservoir if residual phosphates and nitrates did not exceed present loading rates, and if a monitoring system was established at the WWTP to prevent the discharge of significant toxic or hazardous substances. The applicant intends to comply with Department of Health and DLNR requirements governing the discharge of treated effluent into Wahiawa Reservoir.

6.4. Drainage

Existing Conditions

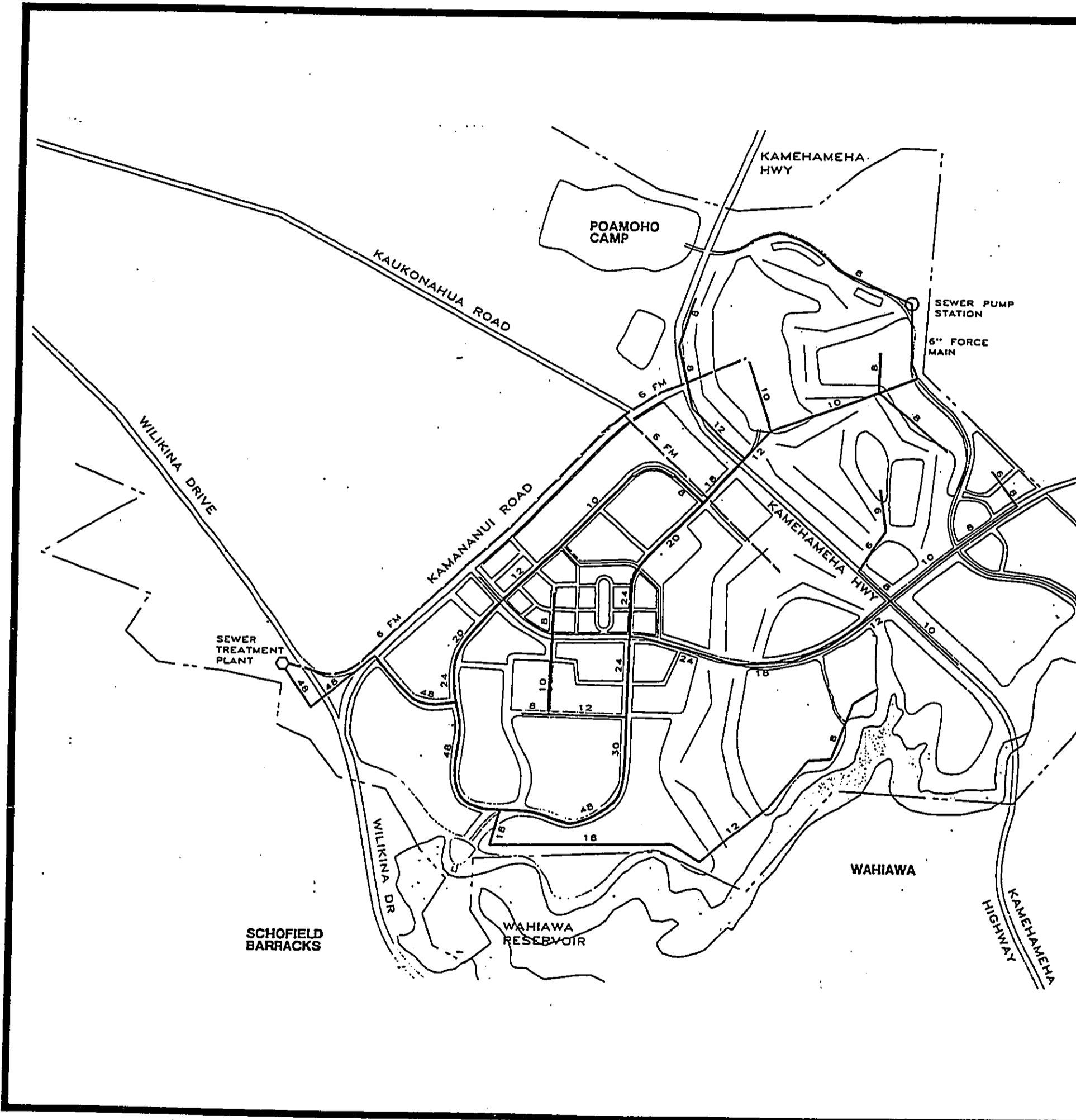
Topographic maps indicate that runoff from about 87 percent of the site now flows in a southerly direction into Wahiawa Reservoir while runoff from the remainder of the site flows north into Poamoho Stream. Runoff from the existing pineapple fields generally follows the pattern of contour cultivation, along field roads and gullies. Ponding may occur in certain low areas; however, over the years, ditches and culverts have been installed to enhance the flow of stormwater runoff.

According to City Storm Drainage Standards (see Appendix L for calculations), the estimated 10-year storm runoff from the area of application would be 2,930 cubic feet per second (cfs).

Runoff from the northern 13 percent of the site flows north into Poamoho Stream. The peak discharge into the stream for a 100-year recurrence storm is estimated to be 840 cfs. For a 10-year storm, the estimated runoff from this area is 560 cfs. The total 10-year storm runoff is 3,490 cfs.

Soil conditions allow moderately rapid permeability, thus runoff in most areas is slow. Erosion caused by runoff is also slight in most areas.

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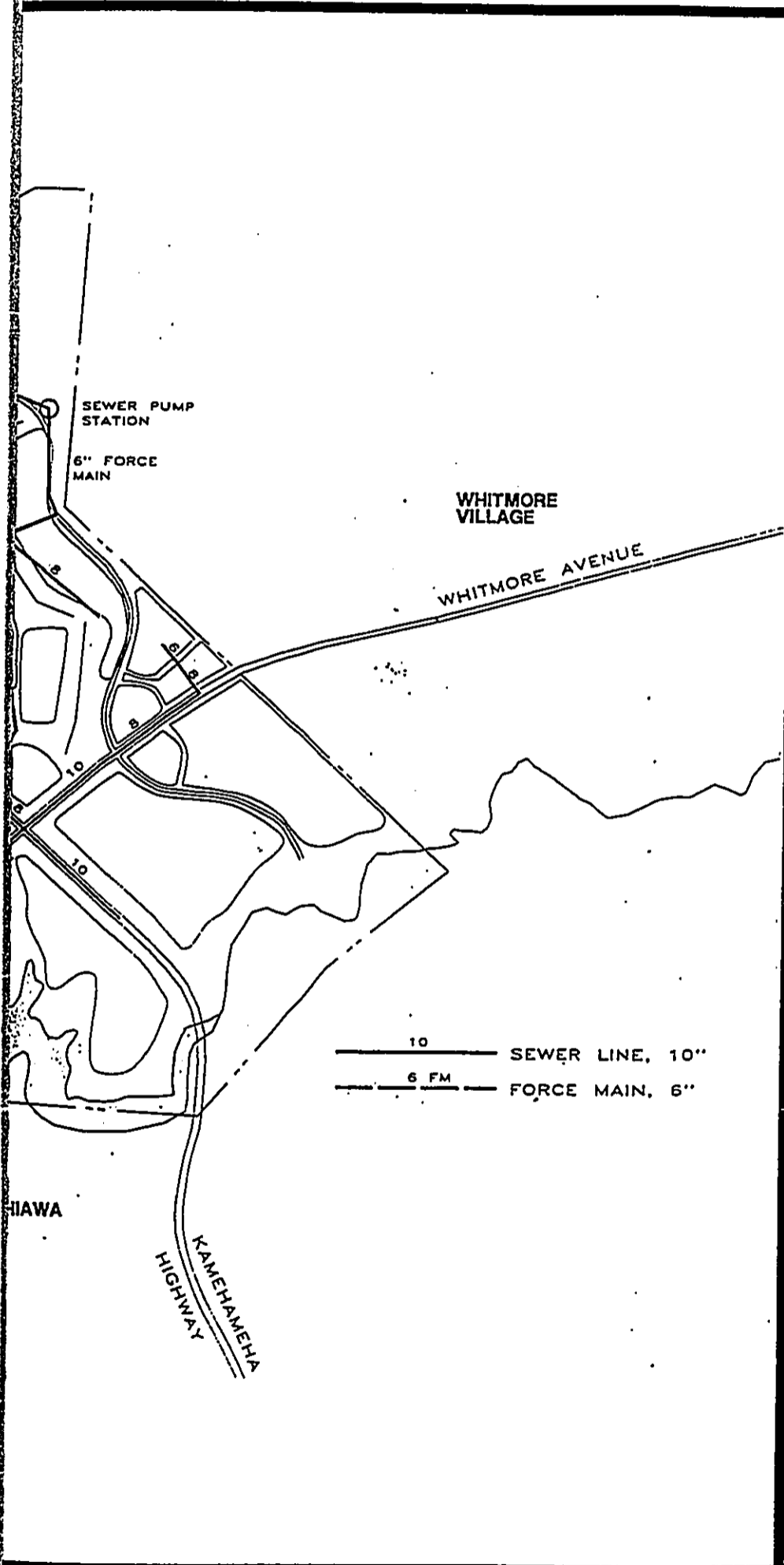


Figure: 17

Proposed Sewer System

WAHIAWA LANDS
MASTER PLAN



Not to Scale

Prepared For: Galbraith Trust Estate,
Hawaiian Trust Company, Ltd., Trustee
Prepared By: Helber Hastert & Fee, Planners

Source: Sam O. Hirota, Inc.

The Federal Emergency Management Agency (FEMA), which evaluates flood hazards and publishes flood insurance rate maps, has not determined if a flood hazard exists at the site of the proposed development.

Impacts

The proposed improvements such as buildings, roadways, and parking lots will increase the total amount of runoff by about six percent.

The total runoff from the proposed development is estimated at 3,136 cfs, or about nine percent more than the 2,890 cfs 10-year storm runoff from the undeveloped site. Pollutants associated with urban runoff will be introduced to the site. However, sediment and chemical pollutants associated with the existing agricultural operations will be reduced. The proposed development will result in an increase of 246 cfs for a 10-year storm and not more than 370 cfs for a 100-year storm. Some of this flow will go into Poamoho Stream. The 100-year storm produces an estimated 17,900 cfs in Kaukonahua Stream. According to the civil engineer, the quantity of runoff from the proposed development is insignificant compared to the flow in Kaukonahua Stream.

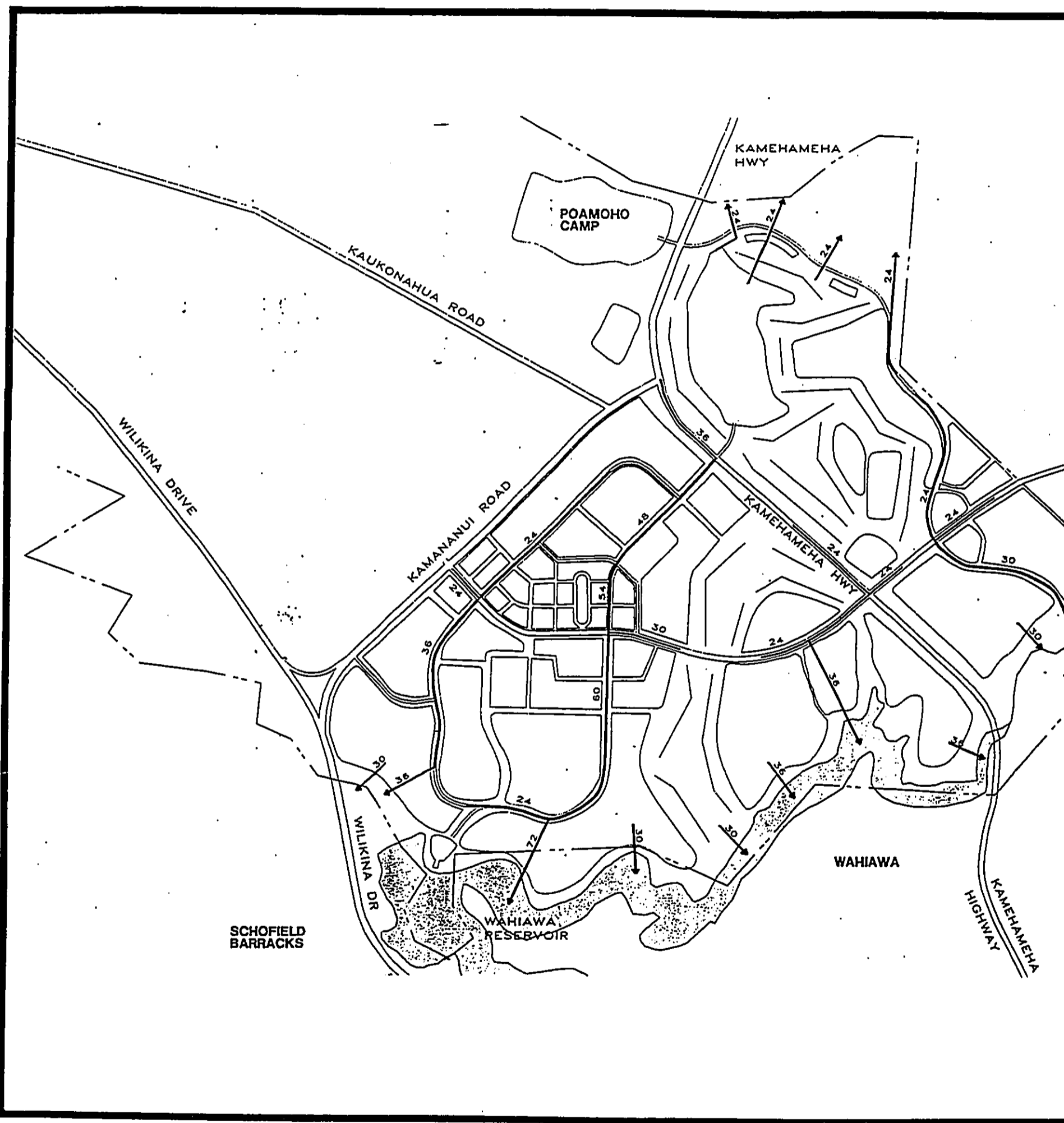
Mitigation Measures

The golf course fairways and landscaped areas will incorporate low areas and about 30 acres of lakes which will act as holding ponds for a portion of the runoff. Drywells may be used in some areas to accommodate some of the runoff while excess runoff would continue to Wahiawa Reservoir. Any drywells with a depth greater than their width would be subject to permitting as underground injection wells by the Department of Health. Some of the runoff flowing into golf course ponds may be mixed with treated wastewater effluent and used for irrigation purposes. The proposed drainage plan is shown in Figure 18.

Grading and drainage for the development will have to comply with the Department of Health Administrative Rules, and City and County ordinances and standards. A National Pollutant Discharge Elimination System (NPDES) stormwater permit is required from DOH for any construction activity that may result in the discharge of stormwater to waters of the State, and involves the clearing, grading, stockpiling, and excavation of five acres or more of total planned development. An NPDES permit is required for any discharge to waters of the State including: construction runoff, dewatering activities, hydrotesting water from new water lines or storage tanks, groundwater remediations sites, and cooling water discharges from air conditioning units. A City and County of Honolulu grading permit will also be required for approval of grading, drainage and erosion control plans. When available, a drainage master plan will be submitted to the City Department of Public Works, Drainage Section, for review and approval. Also, the structural or non-structural best management practices (BMP) which will be provided to control and reduce discharge of pollutants as a result of construction and/or dewatering activities will be covered by the erosion control plan to be submitted to the City at the detailed design phase. This plan may include BMP such as the treatment of all construction phase runoff produced by the development in temporary sediment retention basins, and the provision of vegetative filters to remove sediment and chemical pollutants.

Any alteration of the banks of Kaukonahua Gulch or Wahiawa Reservoir occasioned by the installation of the drainage works may require a Stream Channel Alteration Permit from CWRM.

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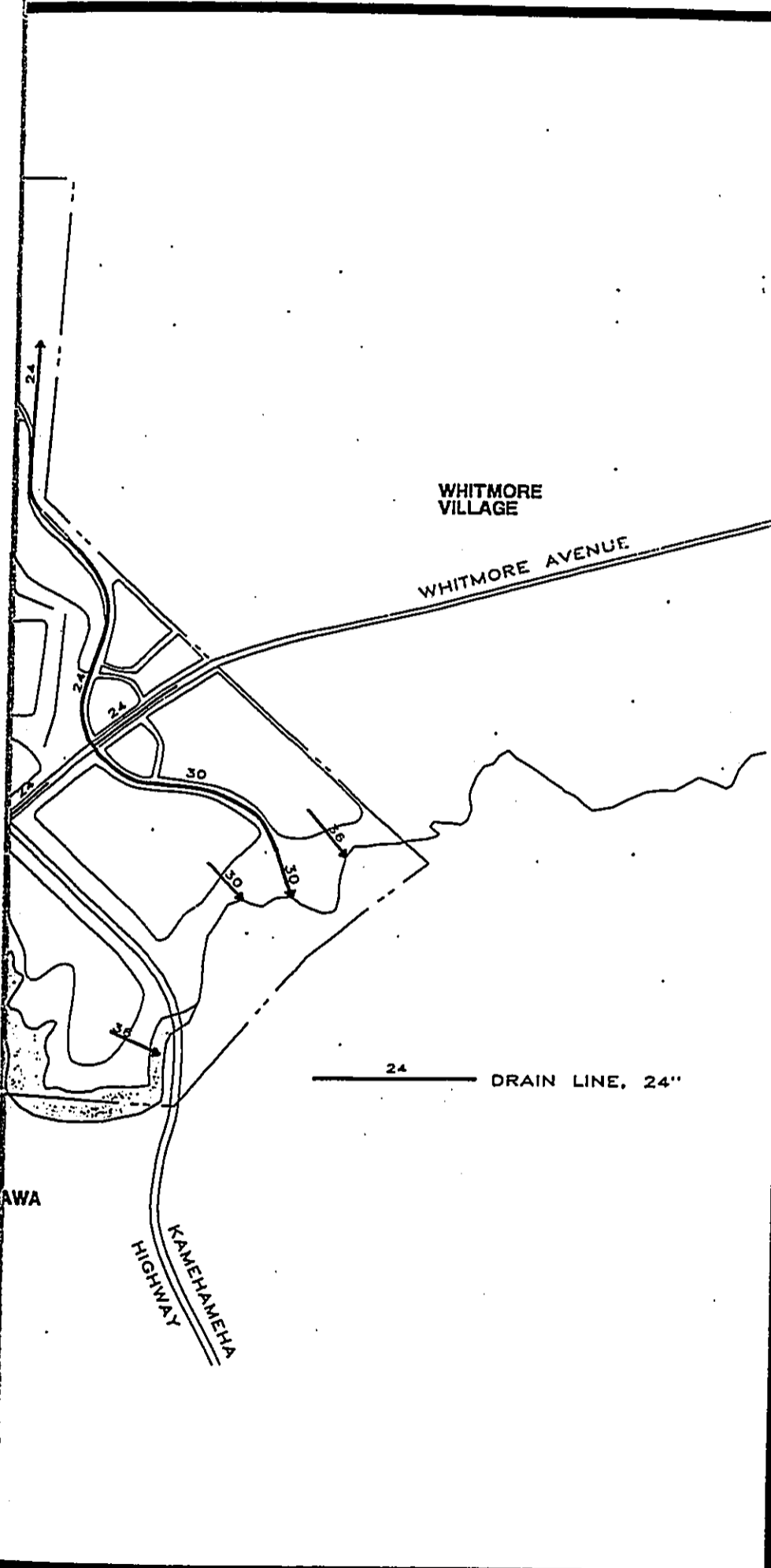


Figure: 18

Proposed Drainage

WAHIAWA LANDS
MASTER PLAN



Not to Scale

Prepared For: Galbraith Trust Estate,
Hawaiian Trust Company, Ltd., Trustee
Prepared By: Helber Hastert & Fee, Planners

Source: Sam O. Hirota, Inc.

The project includes the provision of lakefront and ridgeline parks between the urban development and Poamoho Gulch and Lake Wilson. The establishment of a vegetative buffer is anticipated to reduce the amount of sedimentation and transport of chemicals reaching the water resources.

6.5 Solid Waste

Existing Conditions

Historically, about 80 percent of Oahu's refuse was being landfilled with the remaining 20 percent being burned at the Waipahu Incinerator. With the opening of the City's resource recovery facility (HPOWER) at Campbell Industrial Park, most refuse is pre-processed and burned, leaving less mass to be landfilled. This facility was originally designed to handle most of Oahu's domestic refuse (1,800 tons/day).

Impacts

The project will generate in the range of 30 tons of refuse per day. This would amount to 1.7 percent of the design capacity of the HPOWER waste recovery facility.

The applicant will investigate the use of secondary resources (e.g. recycled materials) whenever possible in the construction of the project, including but not limited to the use of crushed glass as an aggregate substitute in road paving and the use of locally-produced greenwaste compost as a soil amendment in landscaping.

Other mitigation measures include recycling drop-off areas within the commercial and/or residential areas. Newspapers, glass, and aluminum can be deposited in designated bins and transported to local recycling centers. Specific recycling locations, collection plans and programs will be identified at a more detailed stage of project design.

6.6 Schools and Libraries

Existing Conditions

Three elementary schools (Kaala Elementary, Helemano Elementary, and Hale Kula Elementary), one intermediate school (Wahiawa Intermediate) and one high school (Leilehua High) are located in the vicinity of the project. According to the Department of Education (DOE), all five schools are operating beyond capacity and face a shortage of classrooms.

The Wahiawa Public Library is located on California Avenue at Lehua Street, one mile southeast of the project site.

Impacts

According to the Department of Education, the proposed development would generate about 652 elementary school students (K-6), 192 intermediate school students (7-8), and 271 high school students (9-12), or a total of 1,115 students. With this anticipated school population and the existing conditions at the area's schools, one new elementary school would be required.

Based on discussions with the DOE facilities planning staff, the concept plan includes one 12-acre elementary school site located near the Town Center. This facility will be

self-contained and there will be no joint use of park space with the City's Department of Parks and Recreation.

The DOE will request the developer to make a fair-share contribution for the construction of needed school facilities beyond the provision of an adequate school site.

6.7 Recreational Facilities

Existing Conditions

Public parks and recreational facilities in the area include Wahiawa Recreation Center, Wright Field, Wahiawa State Freshwater Park, and Wahiawa Botanical Garden. Leilehua Golf Course (military) is also within the vicinity of the project.

Impacts

The proposed project will provide new park and recreational opportunities for the residents of the development as well as the residents of Wahiawa and Whitmore Village. The development includes a public play golf course, community park, linear lakefront park with a boat launch ramp, ridgeline park along Poamoho Gulch, and neighborhood parks.

Based on DEIS comments from the City and County Department of Parks and Recreation (DPR), a 20-acre, community type park is planned near the Town Center. A ten-acre neighborhood park is located south of the Kukaniloko State Historic Monument.

Lands to be dedicated to the City for public park purposes must meet City standards and requirements. The applicant will continue to consult with the Department of Parks and Recreation to provide the required park facilities.

The proposed plan will improve access to the Reservoir by designating an ingress/egress point at the north bank, with appropriate parking facilities. The present situation requires anglers to drive through unpaved, private agricultural roads to access the Reservoir along the its north side. The proposed development will enhance the quality of the public fishery by providing additional access to the Reservoir by means of a boat launch facility. Comments received from the DLNR Division of Aquatic Resources (DAR) indicated that although an additional boat launch facility is needed, its location on the plan may be inappropriate due to its proximity to the reservoir spillway. The applicant will continue to consult with the Aquatic Resources Division to site the facility in a more appropriate location. Upon recommendation by DAR, the applicant has discussed the proposed development with the Hawaii Freshwater Fishing Association and the Association of Freshwater Sportfishing Anglers, the major fishing organizations which use the reservoir. The applicant will continue to consult with these groups as we move into the design process to assure that their concerns and recommendations are incorporated into the plan.

The Division of Aquatic Resources also recommended a 100-foot buffer along the south edge of the development to mitigate impacts of the development on the adjacent water resource. Such a buffer would have a natural cleansing effect on urban runoff, and would be equivalent to the 100-foot corridor from each bank that has been adopted as a standard for streams by the Office of State Planning. As shown in the development concept plan (Figure 4A), the proposed project includes such a buffer in the form of

the linear lakefront park. A typical section of this park as it relates to the water's edge and the proposed development is shown in Figure 5A.

6.8 Police Protection

Existing Conditions

The Wahiawa Police Station is located less than one mile from the project area, on North Cane Street. The station serves the area from Kipapa Gulch to Kawela Bay. The district served by the Wahiawa station includes 12 beats, with about 5 officers assigned to each beat. There is one officer patrolling each beat per 8-hour watch. There are four beats in Wahiawa. The existing police services and facilities in Wahiawa appear to be adequate (personal communication, Major Herbert Okemura, HPD, September 3, 1992).

Impacts

The development will have an impact on the facilities and services offered by the Honolulu Police Department. Police service for the area covered by the proposal will be provided by the Wahiawa Station. The development is likely to increase the number of calls for police service after full buildout. This may require additional personnel and supporting equipment.

Mitigation Measures

Right-of-way improvements to Wilikina Drive and Kamehameha Highway will include sidewalks and either wider shoulder lanes or designated lanes for bicycle traffic. The applicant will coordinate right-of-way improvement plans with the State Department of Transportation, the City Department of Transportation Services and the Police Department to assure the safety of pedestrians and bike riders. The design of the development will reflect attention to public safety and security and traffic flow.

6.9 Fire Protection

The Wahiawa Fire Station is located less than one mile from the project area, on California Avenue near Makani Avenue. The station houses an engine company and a 5,000 tanker truck for service to remote locations. There is a total of six personnel on duty for each 24-hour shift; one captain, one engineer and three firefighters for the engine company and one engineer for the tanker.

The station's service area covers the area toward Waialua on Kaukonahua Road, excluding the U.H. Experimental Station; toward Haleiwa on Kamehameha Highway to the dividing line between the pineapple and sugar cane fields; toward Pearl City on Kamehameha Highway to but excluding Manako Road at the end of Wheeler Field; and toward Waipahu on Kunia Road to and including the golf course.

Impacts

In a letter of September 15, 1992, the Fire Department stated that it does not foresee adverse impact in Fire Department facilities or services due to the proposed project.

The development will provide access for fire apparatus, water supply and building construction in conformance to existing codes and standards.

6.10 Power and Communication

Existing Conditions

Electric. The Hawaiian Electric Company, Inc. (HECO) now provides electric power required for pineapple operations at the site. They have a 12 kV primary line and 44 kV subtransmission powerlines along Kamehameha Highway. HECO also supplies power to the Wahiawa community from a 12.47 - 138 kV substation, located in Wahiawa town.

Telephone and Cable Television. GTE Hawaiian Telephone Company, Inc. (HTCO) provides telephone service to the adjoining areas of the project site via overhead lines located on public highways. HTCO also maintains buried and aerial cables that run through the project area.

Oceanic Cablevision provides cable television (CATV) service to the Wahiawa area and its vicinity. The military owns buried telephone cables in the project area which are maintained by HTCO.

Emergency Communication System. The proposed development is located in an area not covered by an existing siren alerting system or warning device (siren or siren simulator).

Impacts

Electric. HECO will provide residential electric service to the proposed development via overhead power lines located within roadway rights-of-way or in utility easements.

The electric power requirement for the proposed development is estimated to be 30 MVA and the developer would be required to provide a site for a substation with this capacity. A possible site for the 30 MVA substation is along Whitmore Avenue east of Kamehameha Highway.

Energy-saving measures will be incorporated, as much as feasible, into the development's site planning, landscaping, building design, and mechanical systems and equipment. The developer will use the Model Energy Code, developed under the auspices of the Department of Business, Economic Development and Tourism, as a guide for the development of the project. The Model Energy Code is a building energy efficiency standard for the State of Hawaii, and includes a set of requirements for the energy-efficient design of buildings and building systems.

The development will also seek to incorporate strategies for energy efficient architectural design as identified in the 1990 AIA/DBED study entitled "Hawaiian Design, Strategies for Energy Efficient Architecture." These design strategies include orientation and building form; solar control; daylighting; natural ventilation; landscaping; building systems and material selection; and equipment efficiency. The applicant recognizes the importance of incorporating energy saving design to encourage cost effective energy efficiency.

Telephone and Cable Television. HTCO will provide telephone service to the proposed project. Connection to the HTCO system will be made at Kamehameha Highway. The developer will work with HTCO to assure that telecommunication services are available in a timely manner. Provision of support structures such as ductlines, manholes, and easements will be required by HTCO.

Oceanic Cable does not foresee any problems in planning CATV service for the proposed development.

Emergency Communication System. The Office of the Director of Civil Defense, State of Hawaii has proposed that a solar powered electronic siren and siren support infrastructure be installed to alert residents of an impending or actual event that threatens the development. This siren must be "omni-directional," have a minimum output of 121 decibels and be compatible with the existing civil defense siren system. This siren requires a 250-foot radius buffer zone in which there is no residential building. The suggested location of this siren is near the 15th tee box of the proposed golf course. The applicant will consult with the Department of Defense regarding this siren alerting system.

Radio Frequency Interference. The Navy has advised that the Circularly Disposed Antenna Array (CDAA) at Naval Computer and Telecommunications Area Master Station, Eastern Pacific (NCTAMS EASTPAC) requires buffer zones to ensure adequate protection from local, man-made radio noise sources. Portions of the proposed development east of Kamehameha Highway are not consistent with the Navy's CDAA minimum distance and density criteria for residential and light industrial uses, although these criteria are not enforceable on private land. The Commander, Naval Base Pearl Harbor (COMNAVBASE) recommends that utilities be constructed underground and structures which intrude into the three degree vertical clearance zone be prohibited in order to mitigate the impacts of the development upon the CDAA. In addition to these actions, COMNAVBASE recommends that:

- a. The use of conductive construction be limited. The use of large amounts of metal and concrete may alter antenna patterns.
- b. Covenants, Conditions and Restrictions (CC&R) be established to prohibit:
 - (1) "HAM" radio and other high frequency (HF) transmitters including citizen band (CB) base stations.
 - (2) Electric lawn mowers, radio frequency (RF) stabilized arc welders, RF heaters/ovens, or plastic extrusion or molding machines.
 - (3) Industrial development.
- c. Any lighting (e.g. street lighting) must be low-pressure sodium, incandescent type with RF suppression.

COMNAVBASE also lists the following possible sources of electromagnetic interference: wire fences within 656 feet of the CDAA, large parking areas within 985 feet of the CDAA, and secondary roads within 0.5 miles of the CDAA.

The Navy expressed the following concerns regarding the development of the project.

Proposed housing densities within a 2-mile interference-free circular zone around the CDAA exceed acceptable levels established in Department of Defense directives. A 33-acre commercial/light industrial area is also planned within the 2-mile zone. Encroachment into the 2-mile zone subjects the CDAA to electromagnetic interference problems from "HAM" and "CB" radio transmitters, electric lawn mowers, and various other sources which diminish the effectiveness of the CDAA.

- Nearby overhead power lines are often the dominant source of radio frequency noise that interfere with CDAA operations. To mitigate the negative impacts, the Navy encourages construction of such utilities underground.
- Modern radio frequency heating appliances used in the U.S. have been known to function outside their authorized frequency band and cause problems for the CDAA.
- Construction of tall and conductive structures near the CDAA should be discouraged since the use of large amounts of metal and concrete may alter antenna patterns. Accordingly, tall structures should be kept from intruding into the three degree vertical clearance zone by remaining distant from the CDAA.
- Locate the electrical substation outside the two-mile arc and place all associated electrical lines underground to minimize offending radio frequency interference on critical fleet support and contingency operations conducted throughout the Pacific Region.

According to the project civil engineer, all existing electrical duct lines shown on Figure 14, Appendix L (civil engineering report) are buried. The proposed electrical duct lines shown on Figure 15, Appendix L will be buried.

The applicant will continue to consult with the Navy to mitigate anticipated impacts of the proposed development on the CDAA.

6.11 Health Care Facilities

Existing Conditions

Wahiawa General Hospital is less than one mile southeast of the project site on Lehua Street at Kilani Avenue. This 170-bed facility includes 93 skilled nursing long term care beds.

There are numerous health care professional services available in Wahiawa town.

Impacts

The increase in population associated with the development will increase the demand for health care services in the area. As noted in Section 5.6 Market Analysis, health care facilities and providers are potential tenants of the business center proposed in the plan. Because of the physical constraints on the existing Wahiawa General Hospital and a single medical arts building serving the community, the subject property would be attractive for a large health care facility. Other potential tenants include regional family practice clinics of major Oahu health care providers, along with associated physicians' offices and limited laboratory facilities.

CHAPTER 7

Alternatives to the Proposed Action

CHAPTER 7 ALTERNATIVES TO THE PROPOSED ACTION

Chapter 200 of Title 11, Environmental Impact Statement Rules, requires a discussion of "any known alternatives...which could feasibly attain the objectives of the action." The rules further specify that the alternatives be explored and evaluated in light of enhancement to environmental quality or the avoidance or reduction of adverse environmental effects. As stated in Section 2.4, the objective of the action (Central Oahu DP Land Use Map amendment) is to allow the development of 3,100 residential units, a business center, commercial-mixed use area, commercial-light industrial park, golf course, and public, recreational, and commercial facilities on the subject property.

7.1 Alternatives Which Could Feasibly Attain the Objectives of the Action

One alternative would reasonably achieve the objectives of the action, as stated in Section 2.4: This is the development at a smaller scale. This is discussed below.

7.1.1 Smaller Scale Alternative

A similar project on a smaller scale could be developed at the subject property. One of two outcomes would result from this alternative: (1) construction of fewer affordable housing units or (2) the creation of a "bedroom" community, contributing to peak hour traffic volumes without providing a significant source of employment which could counterbalance the prevailing movement of traffic. If the project had a smaller land requirement due to a proportionate reduction of all the proposed land uses, fewer affordable homes could be built. On the other hand, if the associated employment-generating land uses were eliminated leaving a comparable number of homes, project residents and residents of neighboring communities would not have the option of working in close proximity to their homes. Furthermore, economies of scale are required to underwrite production of affordable homes. As major off-site costs are generally fixed, the cost per housing unit increases as the number of units falls. A smaller project would cost more per unit and could be uneconomic to develop.

7.2 Alternatives Which Would Not Attain the Objectives of the Action

Alternatives to the proposed development which would not attain the objectives of the action include (1) "no action" (no amendment to the existing land use classification at either the State or City level); (2) an agricultural and/or aquacultural park; (3) "lower density alternative"; three alternatives which would use the entire 2,200-acre property including (4) university concept; (5) military family housing; and (6) sports center; and (7) development on an alternative site.

7.2.1 No Action

The no action alternative would preserve the existing conditions on the property, leaving the property in pineapple cultivation. Advantages of this alternative include preservation of views along the transversing roadways and the avoidance of impacts to existing infrastructure. This alternative would forego providing needed affordable housing and jobs in the Wahiawa and greater Central Oahu area. Furthermore, the applicant is legally bound to seek the highest and best use of the lands in its capacity as trustee for the Galbraith Trust Estate.

7.2.2 Agricultural and/or Aquacultural Park

An agricultural park could be developed on the subject property. While this alternative would retain agricultural uses on the property, it would also remove farming acres from Del Monte without provided needed affordable housing and jobs. Furthermore, as discussed in the agricultural impact report prepared by Decision Analysts Hawaii, Inc. (Appendix J), ample prime agricultural land will be available to easily accommodate the statewide requirements of diversified agriculture. Furthermore, the limiting factor is not the land supply, but rather the market demand for those crops that can be grown profitably in Hawaii. Therefore, the lands released from plantation farming by the project will better serve the need for housing than for additional land for an agricultural and/or aquacultural park.

7.2.3 Lower Density Alternative

Approximate net densities of the three residential land uses and the commercial mixed-use area ranges from 6.6 units/acre for the single-family use to 30.0 units/acre in the commercial mixed-use area. The higher-density town center was proposed in order to create a nucleus for activity for the new development by providing a walkable, pedestrian-oriented commercial center.

A lower density alternative was considered for the project which did not include this town center oriented around a grid street layout. The plan that resulted resembled typical subdivisions containing curvilinear streets and cul-de-sacs, not conducive to building a sense of community and order. The town center concept also discourages the inefficient use of private automobiles for travel between home, recreation and places of commerce.

7.2.4 University Concept

The University of Hawaii Board of Regents is looking into developing a West Oahu campus, due to overcrowding at the 300-acre Manoa campus. It is currently looking at locations in the Ewa/Central Oahu area where future growth is expected to occur. The Regents have expressed the need for a 500- to 700-acre site for the university and associated residential community facilities. As considered by the applicant, the campus was sited north of Kamananui Road, with residential developments to the south. A limited amount of land at the northern end of the property would be reserved for agriculture.

This alternative would provide a site large enough to accommodate the land requirements expressed by the Regents in an area with reasonably good access to major transportation facilities. However, in order to efficiently continue its operations, Del Monte expressed its desire to retain the 1,200 acres north of Kamananui Road for its pineapple production. Furthermore, it is the applicant's understanding that the Regents are looking for sites located closer to Honolulu.

7.2.5 Military Family Housing Concept

This concept involves a major military family housing development. Military family housing consists of two components: enlisted housing and officer housing. The Army expressed its desire to accommodate enlisted personnel on-base because of proximity to morale, welfare and recreational facilities. The concept considered by the applicant included the development of 500-600 acres north of Kamananui Road for military family housing. This concept also included possible civilian housing and a convenience

commercial center. Alternative locations for the military housing included siting all the housing south of Kamananui Road or siting a portion of the housing near Whitmore Village.

Advantages of this alternative include the indirect impact on the civilian housing market as servicemembers who currently rent civilian homes move into government housing and vacate their present dwellings, freeing these homes for civilian use. This alternative posed the same disadvantages for Del Monte's operations as the university concept. The applicant has held discussions with the Army on the potential for military family housing development on the site, although the Army has not continued to pursue this alternative.

7.2.6 Sports Center Concept

This concept included the development of a sports center which could be used for Olympic training and as a site for Japanese professional baseball training, sited north of Kamananui Road. The center could include baseball fields, dormitories, limited hotel accommodations, a track, playfields, velodrome, etc. State-funded market studies show that there is a demand for such a facility and that such facilities would serve to diversify the economy and provide new employment opportunities for Hawaii residents. This development could include a significant amount of community recreational facilities and opportunities for local youth leagues and residents to train with professionals. The sports center concept also included some commitment to agriculture and residential uses south of Kamananui Road.

Disadvantages of this alternative include the climate and physical accessibility. Due to the higher elevation of the site, the Galbraith lands are wetter than other areas where similar centers are proposed, such as Ewa. The site is located on the northern periphery of the Central Oahu urban fringe. Since a prerequisite for a successful sports facility is accessibility to a major population center, the site would be inferior to sites located in or near Oahu's south shore.

7.2.7 Development on Alternative Sites

There are 2,200 acres north of Wahiawa owned by the Galbraith Trust. Of this, the 871 acres which are the subject of this Development Plan amendment application would be the most suitable for development. About 800 of the acres are actually being farmed. According to recommendations made by the current lessee, Del Monte Fresh Produce (Hawaii), Inc., the development of the subject acreage would allow the continuation of operations on the remaining 1,300 acres in the most efficient manner. There are no other lands under the applicant's control which are suitable for this development and which would feasibly attain the objectives of the proposed action.

CHAPTER 8

Irreversible and Irretrievable
Commitments of Resources

CHAPTER 8	IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES
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Chapter 200 of Title 11, Environmental Impact Statement Rules (11-200-17(k)) requires the "identification of unavoidable impacts and the extent to which the action makes use of non-renewable resources during phases of the action, or irreversibly curtails the range of potential uses of the environment..."

The construction and operation of the proposed project will result in an irreversible and irretrievable commitment of capital, land, labor and energy for the design and development of the project. The commitment of these resources, however, should be evaluated in light of expected benefits to the community accruing from the project.

The development of the project will transform the subject property from its current agricultural state to an urban environment. The benefits provided by the new uses (e.g. affordable housing, recreational amenities, additional public access to the Wahiawa Reservoir and Poamoho Gulch frontages, and new employment opportunities in the greater Wahiawa area) appear to justify the loss of agricultural operations on the property. Phasing of the development is being planned in coordination with the current lessee, Del Monte Fresh Produce (Hawaii), Inc. to avoid or mitigate adverse impacts to its production and market share goals. As the world markets for pineapple, and particularly sugar, have critical influence on the continuation of these plantations on Oahu, the proposed development should not affect the long-term viability of these crops, nor the availability of agricultural land on Oahu.

The project will not require any new commitment of publicly supported services and facilities that is not compensated by increases in tax revenues.

CHAPTER 9

Relationship Between Local Short-Term
Uses of the Environment and
Maintenance and Enhancement
of Long-Term Productivity

CHAPTER 9	RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY
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Chapter 200 of Title 11, Environmental Impact Statement Rules (11-200-17(j)) requires a brief discussion of the "extent to which the proposed action involves tradeoffs between short-term losses and long-term losses or vice-versa, and a discussion of the extent to which the proposed action forecloses future options, narrows the range of beneficial uses of the environment, or poses long-term risks to health or safety..."

Short-term tradeoffs related to the proposed action are associated with the development of urban uses on the property. The project area consists primarily of pineapple fields, and provides open space and the potential for alternative future uses. The proposed action will commit the site to a particular urban use thereby potentially "narrowing the range of [potential] beneficial uses" and possibly foreclosing future options. However, the project will provide a significant number of affordable housing units, addressing an existing, acute shortfall.

The construction and operational phases of development will contribute greater environmental impacts than those currently generated at the site (e.g. increased water demand, demand for wastewater treatment and solid waste disposal, and traffic impacts). However, with the implementation of mitigative measures, little environmental degradation is expected to occur, and the project would not pose a significant risk to the health and safety of residents of the development or neighboring communities.

Improved public access to Wahiawa Reservoir, additional recreational facilities, and six acres of additional park space buffering the Kukaniloko Birth Stones State Park are proposed for the development. These proposals represent long-term community gains.

As the property is developed, its productivity in terms of generating tax revenues will increase. Revenues from property, income and excise taxes are expected to more than offset expenses associated with expanded public services to meet the requirements of the new development.

CHAPTER 10

Consulted Parties and Participants
in the DEIS Preparation Process

CHAPTER 10	CONSULTED PARTIES AND PARTICIPANTS IN THE DEIS PREPARATION PROCESS
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10.1 Participants in the Draft EIS Preparation Process

This draft EIS was prepared for Hawaiian Trust Company, Ltd. by Helber Hastert & Fee, Planners. The following list identifies individuals and organizations who were involved in the preparation of the DEIS and their respective contributions.

Helber Hastert & Fee, Planners

Thomas A. Fee, AICP (Principal-in-charge and Project Manager)
Gail M. Uyetake (Project Planner and Principal Author)

Technical Consultants

Gail W. Atwater/James W. Stanney (Market Assessment)
Phillip L. Bruner, Ph.D. (Avifauna and Mammals)
Community Resources, Inc. (Socio-economic/Fiscal assessment)
Darby & Associates (Acoustical Engineering)
Decision Analysts Hawaii, Inc. (Agricultural Economics)
Evangeline J. Funk, Ph.D. (Botany)
Sam O. Hirota, Inc. (Civil Engineering)
J.W. Morrow (Meteorology)
Paul H. Rosendahl, Inc. (Archaeology)
William J. Walker, Ph.D. (Environmental Chemistry)
Water Resource Associates (Hydrology)
Wilbur Smith Associates (Traffic Engineering)

10.2 Parties Consulted During the Preparation of the Draft EIS

The Department of General Planning (accepting authority) determined that the proposed development may have a significant effect on the environment. On October 13, 1992, DGP notified the Office of Environmental Quality Control (OEQC) that it had determined that an EIS was required for the subject project. This notice of determination is reproduced in this chapter. An EIS Preparation Notice (EISPN) was subsequently published in the November 8, 1992 issue of the OEQC Bulletin. The publication of the EISPN began a 30-day public review period which ended on December 8, 1992. A copy of the EISPN was mailed to 58 agencies, organizations, and individuals listed below. The list contains parties believed to have an interest in the project.

By January 15, 1993, a total of 30 agencies, organizations or individuals provided written comments on the EISPN. The parties who responded to the EISPN are identified by an asterisk (*) and their respective comments are reproduced in Chapter 11. Comments received during the pre-assessment consultation are reproduced in Chapter 12.

Federal

- Department of the Navy, Naval Computer and Telecommunications Area
Master Station Eastern Pacific
- * Department of the Navy, Commander, Naval Station Pearl Harbor
- * Department of the Army, U.S. Army Engineer District

- Department of the Interior, Fish & Wildlife Service
- Department of the Interior, National Park Service
- Department of Commerce, National Marine Fisheries Service
- Department of Housing and Urban Development
- * Department of Agriculture, Soil Conservation Service
- Department of Transportation, Federal Aviation Administration

State

- * Department of Land and Natural Resources
- * Department of Land and Natural Resources, Historic Preservation Division
- * Department of Land and Natural Resources, Commission on Water Resource Management
- Department of Land and Natural Resources, State Parks Division
- * Department of Business, Economic Development and Tourism, Energy Division
- * Department of Business, Economic Development and Tourism, Land Use Commission
- * Department of Human Services
- Office of State Planning
- * Department of Accounting and General Services
- * Department of Agriculture
- Department of Business, Economic Development & Tourism
- * Department of Health
- * Housing Finance and Development Corporation
- * Department of Hawaiian Home Lands
- Office of Environmental Quality Control
- Office of Hawaiian Affairs
- * Department of Defense
- * Department of Transportation
- * Department of Education
- * Oahu Metropolitan Planning Organization
- * University of Hawaii Environmental Center
- University of Hawaii Water Resources Research Center

City and County

- * Building Department
- * Department of General Planning
- * Department of Transportation Services
- * Board of Water Supply
- Department of Finance
- * Department of Parks and Recreation
- Department of Land Utilization
- * Department of Public Works
- * Department of Human Resources
- * Department of Housing and Community Development
- * Fire Department
- * Police Department
- * Honolulu Public Transit Authority

Other

- * Oceanic Cablevision
- * Hawaiian Electric Company, Inc.
- American Lung Association

*
The Gas Company
GTE Hawaiian Telephone Company, Inc.
Hawaii's Thousand Friends
Wahiawa Neighborhood Board
Wahiawa Community and Business Association
Wahiawa Lions Club
Wahiawa Rainbow Club
Wahiawa Rotary Club
Whitmore Community Association
Whitmore Seniors Club

City Councilmember Rene Mansho
Senator Gerald Hagino
Representative Robert Bunda

DEPARTMENT OF GENERAL PLANNING
CITY AND COUNTY OF HONOLULU

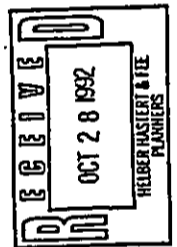
830 SOUTH KING STREET
HONOLULU, HAWAII 96813



FALKE / FISH
MAYOR

BENJAMIN B. LEE
CHIEF PLANNING OFFICER
ROLAND DALRYMPH, JR.
SENIOR CONSULTING PLANNING OFFICER

BS



October 13, 1992

Honorable Brian J. J. Choy, Director
Office of Environmental Quality Control
State of Hawaii
Central Pacific Plaza
220 South King Street, 4th Floor
Honolulu, Hawaii 96813

Dear Mr. Choy:

Notice of Determination for the Proposed
Wahiawa Lands Development (Galbraith Estate)
Tax Map Keys 7-1-01: 5 through 8, 25, 26, 29,
31, 32, Por. 11, 12, 13, Por. 20, 21, and Por. 30
Folder No. 93/CO-1

This is to notify you that the Department of General
Planning, as the accepting authority, has determined that a
Environmental Impact Statement (EIS) is required for the proposed
subject project. Pursuant to Section 11-200-11 of Chapter 200,
Title 11 (Environmental Impact Statement Rules) of the Hawaii
Administrative Rules, this EIS Preparation Notice should be
published in the GEOC Bulletin.

The description of the proposed action is contained in the
summary section of the attached "DOCUMENT FOR PUBLICATION IN THE
GEOC BULLETIN." We have also attached four (4) copies of the
Environmental Assessment.

For further information regarding the EIS, the names,
addresses and phone numbers of contact persons are listed below:

Michael G. Angotti
Hawaiian Trust Company, Ltd.
P.O. Box 3170
Honolulu, Hawaii 96802-3170
Phone # (808) 538-4545

Gail Uyetake
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Grosvenor Center, PFI Tower
Honolulu, Hawaii 96813
Phone # (808) 545-2055

Honorable Brian J. J. Choy, Director
Office of Environmental Quality Control
October 13, 1992
Page 2

Should you have questions, please call Brian Suzuki of our
staff at 527-6073.

Sincerely,

B. Lee
BENJAMIN B. LEE
Chief Planning Officer

BBL:js

Attachments

cc: Michael Angotti, Hawaiian Trust Company
Gail Uyetake, Helber Hastert & Fee, Planners



CHAPTER 11

Comments and Responses Received
During the Preparation of the Draft EIS

**CHAPTER 11 COMMENTS AND RESPONSES RECEIVED DURING
THE PREPARATION OF THE DRAFT EIS**

This section contains reproductions of comment letters regarding the EISPN, as well as the applicant's responses to those comments. Chapter 10 contains a list of the parties to whom the EISPN was sent. This list indicates which parties responded in writing to the EISPN.



DEPARTMENT OF THE NAVY
 COMMANDER
 NAVAL BASE PEARL HARBOR
 BOX 110
 PEARL HARBOR, HAWAII 96820-5000

11010
 SOR M4(235)/3962
 07 DEC 1992

Mr. Gail Uyetake
 Helber, Hastert & Fee, Planners
 733 Bishop Street
 Suite 2590
 Honolulu, HI 96813

Dear Mr. Uyetake:

ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE (EISP/N),
 WAHIAWA LANDS DEVELOPMENT, WAHIAWA DISTRICT, OAHU, HAWAII

Thank you for providing us with an opportunity to comment on the subject Environmental Impact Statement Preparation Notice (EISP/N) and the proposed amendment to the Central Oahu Development Plan transmitted to us via your letter of November 5, 1992. The following comments refer to radio frequency interference (RFI) impacts associated with the proposed development.

The Circularly Disposed Antenna Array (CDAA) at Naval Computer and Telecommunications Area Haster Station, Eastern Pacific (NCTAMS EASTPAC) requires buffer zones to ensure adequate protection from local, man-made, radio noise sources. Electromagnetic Interference (EMI) protection criteria listed in DoD Directive C-3222.5 of April 22, 1987 prohibits housing within a one-mile radius from the antenna. Low density (less than five units per acre) housing areas are permitted between one and two miles from the CDAA. Higher density (greater than five units per acre) housing areas must be beyond two miles of the CDAA.

To mitigate the impacts of development upon the CDAA, we encourage constructing utilities underground and prohibiting structures from intruding into the three degree vertical clearance zone. In addition to these actions, we recommend that:

- a. The use of conductive construction be limited. The use of large amounts of metal and concrete may alter antenna patterns.
- b. Covenants, Conditions and Restrictions (CC&R) be established to prohibit:
 - (1) "HAM" radio and other high frequency (HF) transmitters including citizen band (CB) base stations.
 - (2) Electric lawn mowers, radio frequency (RF) stabilized arc welders, RF heaters/ovens, or plastic extrusion or molding machines.
 - (3) Industrial development.

Subj: ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE (EISP/N),
 WAHIAWA LANDS DEVELOPMENT, WAHIAWA DISTRICT, OAHU, HAWAII

c. Any lighting (e.g., street lighting) must be low-pressure sodium, incandescent type with RF suppression.

In addition to these restrictions, other sources of electromagnetic interference are also of concern. Wire fences within 656 feet (200 m) of the CDAA, large parking areas within 985 feet (300 m) of the CDAA, and secondary roads within 0.5 miles (0.8 km) of the CDAA are all potential sources of interference. We request that the Navy be allowed to review all subdivision plans and designs to determine whether sources of interference are being introduced and what mitigation measures could be taken.

We note that although the mission of the CDAA is expected to increase, there will be no additional facilities constructed. Furthermore, we emphasize that we anticipate no change in the land use compatibility criteria and, therefore, no corresponding change in our off-station EMI/RFI concerns.

Again, thank you for the opportunity to review and comment on the EISP/N and proposed development plan. We look forward to working with you in developing areas adjacent to NCTAMS EASTPAC as an electromagnetically quiet neighborhood. Our point of contact is Mr. William Liu, Facilities Engineer at 471-3324.

Sincerely,

W.K. Liu

W.K. LIU
 FACILITIES ENGINEER
 BY DIRECTOR OF
 THE COMMANDER

Copy to:
 Mr. Brian Suzuki
 City and County of Honolulu
 Department of General Planning
 650 South King Street, 8th Floor
 Honolulu, HI 96813

Mr. Brian Choy
 Office of Environmental Quality Control
 State of Hawaii
 Central Pacific Bank Plaza, 4th Floor
 220 South King Street
 Honolulu, HI 96813

Mr. Michael Angotti
 Hawaiian Trust Company
 P.O. Box 3170
 Honolulu, HI 96802-3170

Helber Haster
Planners

January 14, 1993

Mr. W.K. Liu
Facilities Engineer
Department of the Navy
Commander, Naval Base Pearl Harbor
Box 110
Pearl Harbor, HI 96860-5020

Dear Mr. Liu:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISP/N)

Thank you for your letter dated December 8, 1992 (your reference number 11010, Ser N4(235)/3962) responding to our request for comments on the above-referenced EISP/N.

Your comments on the potential impacts of the development on the Circularly Disposed Antenna Array (CDA) at Naval Computer and Telecommunications Area Master Station, Eastern Pacific (NCTAMS EASTPAC) and your recommended mitigation measures will be discussed in the draft environmental impact statement for the project. The applicant will continue to keep you informed during the planning and design process.

We appreciate your comments on the development proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyeiako

Gail M. Uyeiako
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust



Helber Haster & Fee
Environmental Planners, P.O. Box 110
Pearl Harbor, Hawaii 96860-5020
Tel: (808) 923-2244
Fax: (808) 923-2244



DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
BUILDING 230
FT. SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF:

December 3, 1992


Planning Division

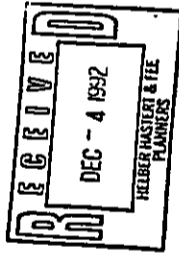
Ms. Gail Uyetake, Project Planner
Helber Haster & Fee
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Thank you for the opportunity to review and comment on the Environmental Impact Statement Preparation Notice for the Wahiawa Lands Development Project, Wahiawa District, Oahu (THK 7-1-1: 5-8, 25-26, 29, 31-32; por. 11-13, 20-21, and 30). We have no additional comments beyond those stated in our letter dated September 23, 1992.

Sincerely,


Kisuk Cheung, P.E.
Director of Engineering



Helber Haster
Planners

December 7, 1992

Mr. Kisuk Cheung, P.E.
Director of Engineering
Department of the Army
U.S. Army Engineer District, Honolulu
Building 230
Fort Shafter, HI 96858-5440

Dear Mr. Cheung:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISP/N)

Thank you for your letter dated December 3, 1992 containing comments on the above-referenced EISP/N. We note that the comments contained in your letter of September 23, 1992 are still applicable.

As stated in your September 23, 1992 letter, any work in the waters of the United States will require a Department of the Army permit. The proposed development is not expected to include any work in the waters of the United States.

We note that according to the Federal Emergency Management Agency's Flood Insurance Rate Map Panel 150001 0044 B and 150001 0000 (September 28, 1990) (copy provided in your letter), the proposed project site is located in Zone D (areas in which flood hazards are undetermined). This information will be included in the draft EIS.

We appreciate your response to our request for comments on the proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTER & FEE, Planners


Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust

Helber Haster & Fee
Creative Centers, P.H. Tower

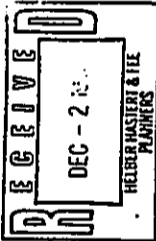
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Telephone: 808 535-2055
Facsimile: 808 535-2050



UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
P. O. BOX 50004
HONOLULU, HAWAII 96850

December 1, 1992



Ms. Gail Uyetake, Project Planner
Heiber Mastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

We have reviewed the Environmental Impact Statement Preparation Notice (EISP) for Galbraith Trust Wahiava Lands and offer the following comments:

The Soil Conservation Service is concerned about the preservation of prime agricultural lands and the prevention of nonpoint source pollution entering Wahiava Reservoir and Kaukonahua Stream. We believe that these issues should be addressed in the Draft EIS.

The proposed development would entail the loss of approximately 800 acres of prime agricultural lands. The Soil Conservation Service opposes any loss of prime agricultural lands to non-agricultural uses. We believe that it is not in the best interest of the State of Hawaii to lose these very important agricultural lands.

The Soil Conservation Service's programs play an active role in the control of nonpoint source pollution, with our primary focus on agricultural sources. While the proposed development is not agricultural in nature, it is of interest to us because it is located within our USDA Waialua-Kaiaaka Bay Hydrologic Unit project area. The USDA funded project is designed to reduce the agricultural nonpoint source pollution that is currently occurring within the Waialua and Kaiaaka Bay watershed areas. The project, one of 14 Hawaii candidates, was selected in a process that awarded only 37 nationwide in 1991. The project goal to improve the surface water quality of both bays and to preserve the ground water quality of the aquifer was one of the main reasons it was selected. The USDA project coordinators are working with other Federal, State of Hawaii, and county agencies on programs to first assess the sources of nonpoint source pollution and then to provide technical assistance to control it. Needless to say, we are concerned that the proposed development should not work against our project and contribute nonpoint or point source pollution to Wahiava Reservoir, Kaukonahua Stream, and Kaiaaka Bay.

In order to prevent pollution of Wahiava Reservoir, Kaukonahua Stream, and Kaiaaka Bay, we would like to suggest that all of the runoff produced by the development be treated in settling ponds to remove sediment and chemical pollutants. We also believe, in addition to the settling basins, a vegetative buffer zone should be established between the development and Lake Wilson in order to filter any surface runoff generated and protect the water quality of the lake.

We are also concerned about the additional wastewater that will be generated by this project. We believe that the Draft EIS should address any effects the project will have on the effluent from the Wahiava Wastewater Treatment Plant. It is our understanding that current plans involve changing the treatment of effluent discharged from the wastewater treatment plant into Lake Wilson.

Thank you for the opportunity to comment on this proposed project. We would appreciate reviewing the Draft Environmental Impact Statement.

Sincerely,

WARREN M. LEE
State Conservationist

ACTING

Heller Haster
Planners
January 19, 1993
Mr. Warren M. Lee
Page 2

We appreciate your response to our request for comments on the proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBERT HASTERT & FEE, Planners


Gail M. Uyeake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust



Heller Haster
Planners

January 19, 1993

Mr. Warren M. Lee
State Conservationist
U.S. Department of Agriculture
Soil Conservation Service
P.O. Box 50004
Honolulu, HI 96850

Dear Mr. Lee:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISP/N)

Thank you for your letter dated December 1, 1992 containing comments on the above-referenced EISP/N. We have reviewed your comments and have the following responses:

1. The draft EIS will discuss the proposed development with respect to public plans and policies regarding the agriculture industry. An agricultural impact assessment is being prepared by Decision Analysts Hawaii, Inc., which will evaluate the impacts of the proposed development on the current lessee and the statewide agricultural industry. This report will be summarized and included in the draft EIS. The development will adhere to relevant Department of Health requirements controlling nonpoint source pollution.
2. Grading and drainage for the development will comply with the Department of Health Administrative Rules, and City and County ordinances and standards. The project will be required to obtain a National Pollutant Discharge Elimination System (NPDES) permit. The project includes the provision of lakefront and ridge-line parks between the urban development and Poamoho Gulch and Lake Wilson. The establishment of a vegetative buffer is anticipated to reduce the amount of sedimentation and transport of chemicals reaching the water resources.
3. The project civil engineers, Sam O. Hirota, Inc., has recommended a private, tertiary wastewater treatment plant (WWTP) located along Kaukonahua Stream west of Wilikina Drive to treat wastewater generated from the proposed development. Preliminary plans call for the treated effluent to be used for irrigation purposes on-site with the excess discharged into the Wahiawa Reservoir. This treated effluent would have to meet strict Department of Health requirements. The draft EIS will discuss plans for treatment and disposal of wastewater in greater detail.

Heller Haster & Fee
Government Center, 11th Floor
211 Bishop Street, Suite 2701
Honolulu, Hawaii 96813
Telephone: 808.535.2013
Facsimile: 808.535.2014

JOHN WALKER
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

REF:OCEA:KCK

HONOLULU, HAWAII 96813

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
DEPUTY DIRECTOR
JOHN P. ALPHELLA, II
DONALD L. WALKER
ACQUISITION DEVELOPMENT
PROGRAM
ANALYTIC RESOURCES
GROUP
CONSERVATION AND RECREATION
PROGRAM
PLANNING AND DESIGN
DIVISION
LAND MANAGEMENT
PROGRAM
PLANNING AND DESIGN
DIVISION
WATER AND LAND DEVELOPMENT
PROGRAM

Ms. Gail Uyetake

- 2 -

File No.: 93-262

DIVISION OF STATE PARKS COMMENTS:

As indicated in the Preparation Notice, the project area surrounds Kukaniloko Birthstones State Park. The 5-acre park includes the site, a buffer of 100-200 feet around the stones, and an access road from Kamehameha Highway. In our previous review of the proposed Development Plan Amendment (File No. 93-149), we stated that this is an inadequate buffer and expressed several concerns regarding the development around this significant historic and cultural site:

- Adequate buffers and development setbacks to maintain the historical and cultural setting of the site.
- Low-rise development to maintain the visual corridors around the historic site.
- Access route to the park site that will provide an adequate setback for the roadway and parking lot at the park site.
- Insure public access to the site while considering potential security measures to assist in site management and preservation.

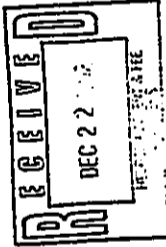
We believe that the applicant is making an concerted effort to address these concerns by setting aside an additional 6 acres for the historic park and by proposing a golf course, park, and low-rise housing in the area surrounding the historic site. Galbraith Trust has not discussed the details regarding the additional 6 acres for the park with State Parks and therefore, we are uncertain if this will be a donation, a management agreement, or if the State is expected to purchase the additional acreage. As we initiate our research and planning for Kukaniloko Birthstones State Park, we encourage the applicant to continue discussions and consultation regarding the site as indicated in Section II-3 of the document.

Thank you for your cooperation in this matter. Please feel free to contact Sam Lemmo at our Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,

William W. Paty
WILLIAM W. PATY

File No.: 93-262
DOC. ID.: 1917



DEC 18 1992

Ms. Gail Uyetake, Project Planner
Helbert Haster and Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Additional Comments - Environmental Impact Statement
Preparation Notice (EISP) for Wahiawa Lands Development,
Wahiawa District, Oahu

Thank you for giving our Department the opportunity to review this matter. As promised in our earlier correspondence, dated December 9, 1992, the following comments are provided.

HISTORIC PRESERVATION DIVISION COMMENTS:

These lands are adjacent to State Site 50-80-04-218, Kukaniloko, which was placed on the National Register of Historic Places in 1973 and has been actively preserved for over 60 years. The State has recently acquired title to about 5 acres of land at this site and long-term preservation and interpretive display will fall to the Department of Land and Natural Resources, Division of State Parks. We note that the master plan includes an 11 acre Kukaniloko Park, and we interpret this to mean that an additional six acres of Galbraith Trust Lands will be used as a buffer between development and the 5 acre parcel managed by State Parks. We further note that development plans for the lands adjacent to the 11 acres call for a golf course and, across the road, a community park and single family residences. We believe that low-rise, low-density development is appropriate for the area surrounding this important historic site, and that there is an opportunity to make considerable improvements to the present preservation and interpretive display of the site.

We have also received an Archaeological Inventory Survey (Henry, Walker, and Rosendahl) for this project. We have responded directly to the archaeologists with some minor suggestions. We anticipate that these can be adequately addressed with small effort and that an acceptable inventory survey will result.

State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Commission on Water Resource Management
Honolulu, Hawaii

DEC 18 1992

MEMORANDUM

TO: Mr. Roger C. Evans, Administrator
Office of Conservation and Environmental Affairs

FROM: Rae M. Louie *Rae M. Louie*

SUBJECT: EISPN for Wahiawa Lands Development, Wahiawa, Oahu

The proposed large-scale development in Wahiawa is in a designated Water Management Area, and the state Commission on Water Resource Management is interested in protecting the water resources within the project site.

While the developer has not directly indicated that streams or other natural waterways within the project area would be impacted by the proposed improvements, the developer is to be made aware of the need to obtain, from the Commission on Water Resource Management, a permit for any stream channel alteration contemplated or an amendment of the prevailing instream flow standard for any streamwater diversions proposed. Further, should the project entail the development of ground water as a source of supply, additional permits for the drilling of wells and the installation of well pumps would need to be secured from the Water Commission.

To protect the ground water in the area, the nonpotable irrigation water that is proposed for use on the golf course should be of quality, in terms of chlorides and nitrates, comparable to or better than that of the underlying ground water.

PH:ky

Heller Hirstert
Planner

January 14, 1993

Mr. William W. Paty
Chairperson
State of Hawaii
Board of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809

Dear Mr. Paty:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISPN)

Thank you for your letter dated December 9, 1992 (File No.: 93-262, Doc. No. 1869) responding to our request for comments on the above-referenced EISPN. We have reviewed your comments and those contained in your letters of December 19, 1992 (File No.: 93-262, Doc. ID.: 1917) and October 8, 1992 (File No.: 93-149, Doc. No. 1532), and offer the following responses.

Division of Aquatic Resources

You indicate that the project will have an unavoidable major negative environmental impact on the Wahiawa Reservoir due to a range of factors such as (1) pollution associated with urban runoff and (2) eutrophication caused by discharges of treated sewage. As will be discussed in the draft environmental impact statement (DEIS), stormwater runoff will be detained in basins and construction activity runoff would be subject to a National Pollutant Discharge Elimination System permit from the Department of Health. The present agricultural use is not subject to a permitting system regulating the quality of the stormwater runoff discharged into the reservoir. According to the course impact analysis conducted for the project by William J. Walker, Ph.D. (to be appended to the DEIS), pesticide and nutrient transport due to erosion and runoff will be reduced from the present situation by the replacement of the agricultural operations by the turfgrass system (golf course).

The project's civil engineers, Sam O. Hirota, Inc., have estimated the effluent generated by the development at full buildout as requiring a 4.61 million gallons/day tertiary-level treatment plant. A portion of this effluent will be reused for golf course and public landscape irrigation, with the remaining effluent available for use by surrounding agricultural operators or discharged into the reservoir. This treated effluent will be of a higher water quality than the effluent presently being discharged into the Wahiawa Reservoir.

The applicant believes that the proposed plan will improve access to the Reservoir by designating an ingress/egress point at the north bank, with appropriate parking facilities. The present situation requires anglers to drive through unpaved, private agricultural roads to access the Reservoir along the its north side.

Heller Hirstert
Planner

245 Hickory Street, Suite 2200
Honolulu, Hawaii 96813

Telephone: 268-515, 2655
Facsimile: 268-515, 2651

Helber Hasterl
Planners

January 14, 1993
Mr. William W. Paty
Page 2

The applicant also believes that the proposed development will enhance the quality of the public fishery by providing additional access to the Reservoir by means of a boat launch facility. We acknowledge your concerns regarding the location of the boat launch relative to the dam spillway, and will consult further with the Division of Aquatic Resources to identify a more appropriate location.

As shown in Figure 4 of the EISPN, the concept plan has always included a linear lakefront park along the north edge of the Reservoir, between the gulch along the east side of the community park and the boat launch. While the topography along much of the length of this park precludes direct access to the Reservoir, it is anticipated to create an open, public edge along the lakefront. This is in contrast to much of the south fork of the Reservoir, which is abutted by private residential lots, making the waterfront inaccessible to the public. We concur with your assessment that the linear park would provide an important buffer between urban and conservation uses. The DEIS will include a discussion of the proposed park areas and proposals for enhancing public access and enjoyment of this unique and important recreational resource. The applicant would appreciate further direction and suggestions on the optimal location of the boat launch and the design, uses and disposition of the proposed lakefront park from your Division of State Parks.

Historic Preservation Division

As inferred in your letter, the concept plan proposes an additional six acres of park space around the Division of State Parks' five-acre Kukamilohe parcel to create a buffer around the site. We acknowledge your comments that the low-rise, low-density development being proposed for the lands adjacent to the proposed 11-acre park (golf course, community park, and single-family residences) are appropriate for the area surrounding this historic site. The applicant has and will continue to consult with interested members of the community regarding the preservation of the site and appropriate surrounding uses, and will consult with the Division of State Parks in coordinating plans for the proposed park.

The project archaeologist, Paul H. Rosendahl, Inc., has received your comments and will be revising its inventory survey accordingly. The revised report will be summarized and appended in the DEIS.

Division of State Parks

We acknowledge your comments that the present five-acre Kukamilohe Birthstones State Park does not include an adequate buffer and that several concerns exist regarding the development around the site:

- Adequate buffers and development setbacks to maintain the historical and cultural setting of the site.
- Low-rise development to maintain the visual corridors around the historic site.
- Access route to the park site that will provide an adequate setback for the roadway and parking lot at the park site.
- Insure public access to the site while considering potential security measures to assist in site management and preservation.

Helber Hasterl
Planners

January 14, 1993
Mr. William W. Paty
Page 3

We also acknowledge your comment that you believe the applicant is making a concerted effort to address these concerns through the proposed additional six acres of park land, and the surrounding golf course, park and low-rise housing. As indicated above, the applicant will continue discussions and consultation with the State Parks Division regarding the site.

Commission on Water Resource Management

The DEIS will include a discussion of the need to obtain a permit for any stream channel alteration or amendment of the prevailing instream flow standard for any streamwater diversions proposed from the Commission. The DEIS will also note that additional permits from the Commission would be required for water use, the drilling of wells and the installation of well pumps.

Treated wastewater which has received a tertiary level of treatment will be used to irrigate the golf course. The water quality of the treated irrigation water will be comparable to the quality (in terms of chlorides and nitrates) of the underlying groundwater.

We appreciate your comments on the development proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBERT HASTERL & FEE, Planners



Gail M. Uyelake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust

JOHN WARD
Chief Clerk of the Board



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 481
HONOLULU, HAWAII 96809

REF: OCEA/VKXK

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
DEPT. OF LAND AND NATURAL RESOURCES
1000 KALANIANA'OLA HWY.
HONOLULU, HAWAII 96813
JOHN P. SIMPSON, JR.
DONALD L. MALONE
AGRICULTURE DEVELOPMENT
ADULT EDUCATION
COUNSELING AND
CAREER DEVELOPMENT SERVICES
DEPARTMENT OF LABOR
INDUSTRY RELATIONS
DEPARTMENT OF HEALTH
NATIVE AFFAIRS
LAND MANAGEMENT
PLANNING AND DEVELOPMENT

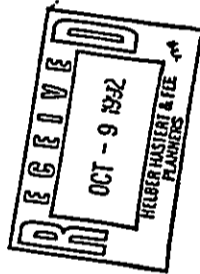
Ms. Uyetake

-2-

File No.: 93-149

FILE NO.: 93-149
DOC. NO.: 1532

OCT 8 1992



Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

ATTN: Gail Uyetake

Dear Ms. Uyetake:

SUBJECT: Application for Development Plan Amendment and Environmental Assessment, Galbraith Trust Waihiwa Lands, Waihiwa, Oahu

Thank you for giving our Department the opportunity to comment on this matter. We have reviewed the submitted material, and have the following comments:

The application for a development plan amendment proposes to change the development plan designation for approximately 800 acres of land adjacent to Waihiwa from agriculture to residential and commercial. The subject acreage surrounds Kukaniloko Birthstones State Park. The park consists of 5 acres (the birthstone with a buffer) and an access road from Kamehameha Highway. The State obtained possession in July, 1991 and planning funds were recently released to initiate the research and planning for this site.

The present buffer around the site area ranges from approximately 100 feet on the north and south sides to approximately 200 feet on the east and west sides. When the State first planned for the acquisition of the Kukaniloko site, a total of 15 acres was considered. Recognizing that the proposed amendment would permit housing, commercial structures, and a golf course in proximity to the birthstones, we are concerned that an adequate buffer be established for the site that will maintain the cultural integrity, the historical setting, and insure long-term preservation of the site. We do not believe that the current 5 acre area is an adequate buffer based on the potential scale of modern development and the potential for visual and sound intrusions on the cultural site.

In preliminary discussions with planners for the Galbraith Trust, we have suggested the need for a larger buffer and a setback for any structural developments. You indicated on your Draft Conceptual Development Plan that an additional 6 acres will be added around the site (total of 11 acres) and structures will not be planned immediately adjacent to the park. We believe that the following concerns regarding Kukaniloko Birthstones State Park need to be addressed as the planning for this area continues:

- The historical setting and cultural integrity should be maintained through the establishment of adequate buffers and development setbacks. This includes not only sufficient land area around the site but considerations such as landscaping, open space land use around the park, and the construction of only low-rise structures in close proximity to the park.
- Access routes to the park should be coordinated in the planning stage to insure that an adequate buffer is maintained between the birthstones site and the roadway/parking area for the park.
- Public access to the site is accommodated and there are options available to secure the site as needed (eg. locked gates at night).

In addition, because the Commission on Water Resource Management has continuing concerns regarding land developments over aquifers and stream channel alterations, the Commission requests that it be consulted during the EA preparation process.

Thank you for your cooperation in this matter. Please feel free to call Cathy Tilton of our Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,

John P. Kappeler
JOHN WILLIAM W. PATY



**DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM**

ENERGY DIVISION, 335 MERCHANT ST., RM. 110, HONOLULU, HAWAII 96813 PHONE: (808) 587-3400 FAX: (808) 587-3470

JOHN WAHBE
Governor
MARTI MAHREMAN
Director
BARBARA BAI STANON
Deputy Director
RICK EGGETT
Deputy Director
TAMARA YOSHIDA
Deputy Director

92:1180c



November 30, 1992

Mr. Maurice H. Kaya
Energy Program Administrator
Department of Business, Economic Development & Tourism
Energy Division
335 Merchant Street, Room 110
Honolulu, HI 96913

Dear Mr. Kaya:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISP/N)

Thank you for your letter dated November 16, 1992 responding to our request for comments on the above-referenced EISP/N. We note that you have no additional comments to your letter of September 28, 1992.

The draft EIS will evaluate the proposed project's energy impacts in relationship to the Hawaii State Plan (Chapter 226, Hawaii Revised Statutes); in particular, Chapter 226-18 (a), (2) and (c); 226-52 (a) and (b), (2), (D); and 226-103, (f), (1) and (2).

The publications you provided ("Energy Efficiency Design Guidelines" and "Strategies for Energy Efficient Architecture") will be useful as the project moves into a more detailed level of planning and design.

We appreciate your timely response to our request for comments on the proposal. Your letter will be reproduced in the draft EIS.

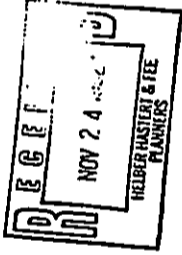
Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust

Helber Hastert & Fee
335 Merchant Street, Suite 220
Honolulu, Hawaii 96813
Telephone: (808) 587-3400
Facsimile: (808) 587-3470



November 16, 1992

Ms. Gail Uyetake
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Environmental Impact Statement Preparation
Notice (EISP/N) for Wahiawa Lands Development

Thank you for the application for environmental assessment (EA) for the proposed project. We have no additional comments to our letter of September 28, 1992.

Sincerely,

Maurice H. Kaya
Energy Program Administrator

MHK/EU:dkfk





DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
LAND USE COMMISSION
Room 104, Old Federal Building
333 Kalia Road
Honolulu, Hawaii 96813
Telephone: 579-3111

November 16, 1992

Mr. Benjamin B. Lee
Chief Planning Officer
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

ATTENTION: Mr. Brian Suzuki

Dear Mr. Lee:

Subject: Environmental Impact Statement Preparation Notice
(EISP) for Waiawa Lands Development; TMK:
7-1-01: 05; 06; 07; 08; 25; 26; 29; 31; 32;
por. 11; por. 12; por. 13; por. 13; por. 20; por. 21; &
por. 30

We have reviewed the subject EISP transmitted by letter dated November 5, 1992 from Ms. Gail Uyetake of Halber Hastert & Fee, Planners and have the following comments:

- 1) We verify that the following parcels or portions of parcels are within the State Land Use Agricultural District: TMK: 7-1-01: 05; 06; 07; 08; 25; 26; 29; 31; 32; por. 11; por. 12; por. 13; and por. 30.
- 2) We verify that the following portions of parcels are within the State Land Use Conservation District: TMK: 7-1-01: por. 20; and por. 21.
- 3) Review of Figure 1 of the EISP indicates that the parcels identified as TMK: 7-1-01: 27 and 28, should be included in the listing of tax map key numbers on page I-2 of the EISP.
- 4) Review of Figure 1 also indicates that TMK: 7-1-01: 04 should be a part of the tax map key listing. However, clarification is needed as this parcel seems to be a part of the five-acre Kukaniloko Birthing Stone site that the Department of Land and Natural Resources has just acquired.

Mr. Benjamin B. Lee
November 16, 1992
Page 2

- 5) Based upon the listed proposed uses of the area under the Development Plan Amendment application, it appears that a State Land Use Boundary Amendment will be required to reclassify the lands from the Agricultural and Conservation Districts to the Urban District.

We have no further comments to offer at this time.

Thank you for the opportunity to provide comments on this matter. If you should have any questions, please feel free to contact me or Leo Asuncion of my staff at 587-3822.

Sincerely,

ESTHER UEDA
Executive Officer

EU:th

cc: OEQC
Michael Angotti
Gail Uyetake

Helber Haster
Planners

November 23, 1992

Ms. Esther Ueda, Executive Officer,
State of Hawaii
Department of Business, Economic Development & Tourism
Land Use Commission
335 Merchant Street, Room 104
Honolulu, HI 96813

Dear Ms. Ueda:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISP/N)

Thank you for your letter to the City and County of Honolulu Department of General Planning dated November 16, 1992 containing comments on the above-referenced EISP/N.

We appreciate your identifying the additional TMK parcels 7-1-01: 27 (0.95 acres) and 28 (1.14 acres) which should be included in the listing of tax map key numbers. The draft EIS will reflect this information.

The draft EIS will also clarify that the area of application does not include TMK: 7-1-01: 04 (0.585 acres), as it is part of the five-acre Kukaniloko Birthing Stone site that the Department of Land and Natural Resources recently acquired. The DLNR is in the process of applying for resubdivision of the site.

Please note, the applicant intends to submit a request for a State Land Use Boundary Amendment to reclassify the lands from the Agricultural and Conservation Districts to the Urban District in 1993.

We appreciate your timely response to our request for comments on the proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyclake
Gail M. Uyclake
Project Planner

cc: Mr. Michael Angoli, Hawaiian Trust

Helber Haster & Fee
Governor Center, 1911 Tower
211 Bishop Street, Suite 2204
Honolulu, Hawaii 96813
Telephone: (808) 515-2053
Facsimile: (808) 515-2050



JOHN WASHBEE
CONTROLLER



STATE OF HAWAII
DEPARTMENT OF HUMAN SERVICES
Planning Office
P.O. Box 339
Honolulu, Hawaii 96809

November 12, 1992

Ms. Gail Uyetake
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

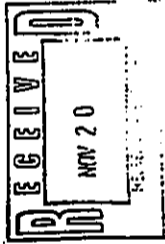
Subject: EISPN, Wahiawa Lands Development, Wahiawa, Hawaii, TMK:
7-1-1: 005-008, 025, 026, 029, 031, 032; portions of 011-013,
020, 021 & 030.

Thank you for the opportunity to review this document. We have no
additional comments to offer at this time.

Sincerely,

Winona E. Rubin
Winona E. Rubin
Director

WINONA E. RUBIN
DIRECTOR
LYNN H. FALLON
DEPUTY DIRECTOR
LESUE S. MATSUOKA
DEPUTY DIRECTOR



Helber Hastert
Planners

November 30, 1992

Ms. Winona E. Rubin, Director
State of Hawaii
Department of Human Services
Planning Office
P.O. Box 339
Honolulu, HI 96809

Dear Ms. Rubin:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISPN)

Thank you for your letter dated November 12, 1992 responding to our request for
comments on the above-referenced EISPN.

The draft Environmental Impact Statement (DEIS) will discuss population growth,
income and housing, as requested in your letter of September 16, 1992. A
socioeconomic impact report on the proposed development is being prepared and will be
included in the DEIS.

We appreciate your timely response to our request for comments on the proposal. Your
letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyetake
Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust

Helber Hastert & Fee
Commerce Center, 7th Floor

733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Telephone: (808) 535-2915
Facsimile: (808) 535-2928

AN EQUAL OPPORTUNITY AGENCY

Helber Hastert
Planners

ROBERT P. YAMASHI
COMPTROLLER
LLOYD T. UKEBAGANE
DEPUTY COMPTROLLER

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 114, HONOLULU, HAWAII 96819
LETTER NO. (P)11949.2

JOHN WAREE
CONTROLLER



December 2, 1992
Mr. Gordon Matsuoka
State Public Works Engineer
State of Hawaii
Department of Accounting and General Services
P.O. Box 119
Honolulu, HI 96810

Dear Mr. Matsuoka:
Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISP/N)

Thank you for your letter dated November 27, 1992 (your reference number P 1949.2) containing comments on the above-referenced EISP/N. We note that you do not have any comments at this time.

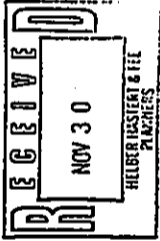
We appreciate your response to our request for comments on the proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyetake
Gail M. Uyetake
Project Planner

cc: Mr. Michael Angolli, Hawaiian Trust



NOV 27 1992

Helber Hastert and Fee
733 Bishop Street, Suite 2590
Grosvenor Center, PFI Tower
Honolulu, Hawaii 96813

Attention: Ms. Gail Uyetake
Gentlemen:

Subject: Wahiawa Lands Development
Wahiawa, Oahu, Hawaii
EIS Preparation Notice

Thank you for the opportunity to review the subject document. We have no comments to offer.

If there are any questions, please have your staff contact Mr. Ralph Yukumoto of the Planning Branch at 586-0488.

Very truly yours,

Gordon Matsuoka
GORDON MATSUOKA
State Public Works Engineer

RY:JK

Helber Hastert & Fee
Grosvenor Center, PFI Tower
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813
Telephone: (808) 515-2055
Facsimile: (808) 515-2050



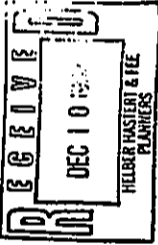
JOHN WARREN
Governor



State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 So. King Street
Honolulu, Hawaii 96814-2512

YUKIO KITAGAWA
Chairperson, Board of Agriculture
RUMA A. PIRANAJA
Deputy to the Chairperson

FAX: 973-9613
Mailing Address:
P. O. Box 22159
Honolulu, Hawaii 96822-2159



December 7, 1992

Ms. Gail Uyetake
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, HI 96813

Dear Ms. Uyetake:

Subject: Environmental Impact Statement Preparation Notice (EISPN) for Galbraith Trust Wahaiwa Lands Development, Wahaiwa District, Oahu, Hawaii
TMK: 7-1-1: 5; 6; 7; 8; 25; 26; 29; 31; 32; portion of 11; portion of 12; portion of 13; portion of 20; portion of 21; and portion of 30
Area: 892 acres

The Department of Agriculture (DOA) has reviewed the subject EIS Preparation Notice and offers the following comments.

The subject EIS Preparation Notice appears to acknowledge the major DOA concerns, as stated in our pre-assessment consultation letter of September 4, 1992. We reserve further comments until receipt and review of the Draft Environmental Impact Statement.

Sincerely,

Yukio Kitagawa
Yukio Kitagawa
Chairperson, Board of Agriculture

c: Department of General Planning
Office of Environmental Quality Control
Office of State Planning (attention: Land Use Division)



Helber Hastert
Planners

January 19, 1993

Mr. Yukio Kitagawa
Chairperson, Board of Agriculture
State of Hawaii
Department of Agriculture
1428 South King Street
Honolulu, HI 96814-2512

Dear Mr. Kitagawa:

Wahaiwa Lands Development, Wahaiwa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISPN)

Thank you for your letter dated December 7, 1992 responding to our request for comments on the above-referenced EISPN. We have reviewed the comments contained in your letter and the letter of September 4, 1992 responding to the pre-assessment consultation, and offer the following responses.

An agricultural impact analysis for the project has been prepared by Decision Analysis Hawaii, Inc., and will be included in the draft environmental impact statement (DEIS).

The relationship of the project to the relevant objectives and policies of the Hawaii State Plan and State Agriculture Functional Plan will be discussed in the DEIS.

The DEIS will also include a discussion of alternatives to the proposed project. We appreciate your comments on the development proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Helber Hastert
Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust

Helber Hastert & Fee
Construction Planning, P.H.H. Group

233 Bishop Street, Suite 2270
Honolulu, Hawaii 96813

Telephone: 808-535-2075
Facsimile: 808-535-2070

JOHN C. LEMITH, M.D.
DIRECTOR OF HEALTH

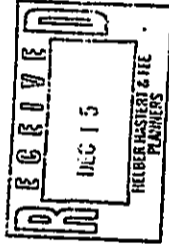


STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3318
HONOLULU, HAWAII 96813

December 9, 1992

IN REPLY, PLEASE REFER TO:

92-325/epo



Ms. Gail Uyetake
Project Planner
Helber Mastert & Tie
Grosvenor Center, PFI Tower
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Environmental Impact Statement Preparation Notice (EISP/N) and
Environmental Assessment (EA)
Wahiala Lands Development
Wahiala District, Oahu
THK: 7-1-01: 5, 6, 7, 8, 25, 26, 29, 31, 32,
portion 11, portion 12, portion 13,
portion 20, portion 21, and portion 30

Thank you for allowing us to review and comment on the subject document. Our pre-assessment comments in our letter, dated October 16, 1992, are in the EA document. In addition to those comments, we would like to make the following comments:

Wastewater

As the project area is located in the Central Oahu Sewerage District and the City is installing a new sewer system between the intersection of Kamehameha Highway and Kilani Avenue and the intersection of Whitmore Avenue and Ihiihi Street, we have no objection to this project, provided that it is connected to the public sewer.

The developer should work closely with the county to assure the availability of additional treatment capacity and adequacy for the project. Non-availability of treatment capacity will not be an acceptable justification for use of any private treatment works or individual wastewater system.

If you should have any questions on this matter, please contact Ms. Lori Kajiwara of the Wastewater Branch at 586-4290.

Solid Waste

The developer should investigate the use of secondary resources (e.g., recycled materials) whenever possible in the construction of the project, including but

Ms. Gail Uyetake
December 9, 1992
Page 2

92-325

not limited to, the use of crushed glass as an aggregate substitute in road paving and the use of locally-produced greenwaste compost as a soil amendment in landscaping.

If you should have any questions on this matter, please contact Ms. Carrie McCabe of the Office of Solid Waste Management at 586-4227.

Very truly yours,

JOHN C. LEMITH, M.D.
Director of Health

C: Wastewater Branch
Office of Solid Waste Management



Heller Haskert
Planners

January 14, 1993

John C. Lewin, M.D.
Director
State of Hawaii
Department of Health
P.O. Box 3378
Honolulu, HI 96801

Dear Dr. Lewin:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISP/N)

Thank you for your letter dated December 9, 1992 (92-325/epo) responding to our request for comments on the above-referenced EISP/N. We have reviewed your comments and those contained in your letter of October 16, 1992 and offer the following responses:

Wastewater

Based on comments received from the Honolulu Department of Public Works, the project civil engineers, Sam O. Hirota, Inc., recommended a 4.61 million gallon/day tertiary treatment plant for the development to treat the estimated 1.5 mgd average daily flow at ultimate buildout. This direction from the City conflicted with comments contained in your letter of December 9, 1992, directing the applicant to connect the project to the public sewer. After consultation with Ms. Lori Kajiwara of the Wastewater Branch, we received a letter from Mr. Dennis Tulang, Chief of the Wastewater Branch (December 22, 1992) providing additional comments on the proposed project pertaining to wastewater treatment. A copy of this letter is attached for your information. The draft environmental impact statement (DEIS) will include a discussion of the issues and conditions stated in the letter.

The entire project will be sewerered and therefore there are no cesspools planned for the development. A portion of the tertiary treated effluent will be used to irrigate the proposed golf course and other public landscaped areas. The remaining effluent will be available to surrounding agricultural operators for irrigation purposes or discharged into Lake Wilson, subject to government permitting requirements.

Solid Waste

As recommended in your letter, the applicant will investigate the use of secondary resources whenever possible in the construction of the project, including but not limited to, the use of crushed glass as an aggregate substitute in road paving and the use of locally-produced greenwaste compost as a soil amendment in landscaping. Other measures include a community recycling drop-off area and collection areas within multi-family residences. The DEIS will include a discussion of these alternatives.

Heller Haskert & Co.
Government Center, 11th Floor

211 Bishop Street, Suite 2700
Honolulu, Hawaii 96813

Telephone: 808-531-2633
Facsimile: 808-531-2629

Heller Haskert
Planners

January 14, 1993
Mr. John C. Lewin, M.D.
Page 2

Drinking Water

1. The DEIS will note that the site lies above the Underground Injection Control (UIC) line.
2. The DEIS will include a summary of a hydrological study prepared by Water Resource Associates. This study, which will be attached to the DEIS as an appendix, identifies the water wells in the vicinity of the project site.
3. The DEIS will note that if any injection wells (including sumps, pits, seepage pits, or drywells) are proposed for the disposal of fluids, a UIC permit application must be filed with the Safe Drinking Water Branch.
4. The DEIS will include a discussion of potential impacts by the planned industrial activities to groundwater quality, as well as possible mitigation measures. The conditions recommended in your October 16, 1992 letter will also be discussed.
5. The project hydrologist, Water Resource Associates, identified a possible source of potable water required by the development. A discussion of groundwater resources and supply will be included in the DEIS. Conservation efforts such as the installation of low flow water fixtures in residential portions of the development will be discussed in the DEIS.
6. We appreciate your provision of a copy of the twelve conditions applicable to all new golf course developments. An impact analysis for the proposed golf course was prepared by William J. Walker, Ph.D., and will be included in the DEIS. The applicant will work the DOH to ensure that the twelve conditions are met.

Water Pollution

The DEIS will note that for any construction activity that may result in the discharge of stormwater to waters of the State, and involves the clearing, grading and excavation of five acres or more of total planned development, a National Pollutant Discharge Elimination System (NPDES) stormwater permit is required from DOH. The DEIS will also note that an NPDES permit is required for any discharge to waters of the State including: construction runoff, dewatering activities, hydrotesting water from new water lines or storage tanks, groundwater remediations sites, and cooling water discharges from air conditioning units.

Noise

A noise quality impact analysis was conducted for the project by Darby & Associates. The potential impacts of the integration of various uses will be discussed in the DEIS, along with possible mitigation measures.

Helber Hastert
Planners

January 14, 1993
Mr. John C. Lewin, M.D.
Page 3

We appreciate your comments on the development proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

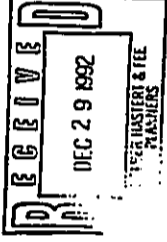
Gail M. Uyetake
Gail M. Uyetake
Project Planner

Encl.

cc: Mr. Michael Angotti, Hawaiian Trust



JOHN C. LEWIN, M.D.
DIRECTOR OF HEALTH



STATE OF HAWAII
DEPARTMENT OF HEALTH
ENVIRONMENTAL MANAGEMENT DIVISION
FIVE WATERFRONT PLAZA, SUITE 250
500 ALA MOANA BOULEVARD
HONOLULU, HAWAII 96813

December 22, 1992

A.13807-01-01.2ND

In reply, please refer to:
EMD

Ms. Gail Uyetake, Project Planner
Helber Hastert & Fee, Planners
Grosvenor Center, PRI Tower
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Subject: Environmental Impact Statement Preparation Notice (EISP/N)
Wahiawa Lands Development
Wahiawa District, Oahu
TMK: 7-1-01: 5, 6, 7, 8, 25, 26, 29, 31, 32, portion 11, portion 12, portion 13, portion 20 and portion 30

We have reviewed the document on the subject project once again after your telephone conversation with Lori Kajiwara. It has been determined that the subject project is located within the County sewer service system. As the area is sewered, we have no objections to the construction of a new sewer system between the intersection of Kamehameha Highway and Kilani Avenue and the intersection of Whitmore Avenue and Ihihi Street.

Pursuant to the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems," our Wastewater Management Policies (WMP2) states:

Section 11-62-06(b) requires that all buildings generating wastewater and located within or near proximity of an available public sewer must connect to the sewer system.

Use of a private wastewater treatment works or a single individual wastewater system may be allowed provided that connection to the public sewer is denied due to inadequate sewer or treatment capacity and the following conditions are met;

- A. The county has appropriated funds for the construction of necessary wastewater project to correct the situation;

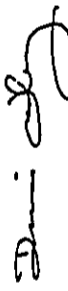
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Ms. Uyetake
December 22, 1992
Page 2

- B. The county allocates or commits wastewater capacity to the project in question;
- C. The development constructs a dry sewer line or lines to the collection system in anticipate of connection once the county wastewater projects are completed; and
- D. The private wastewater facility is abandoned and connection to the public sewer is made upon notification by the county or Department of Health.

Should you have any questions, please contact Ms. Lori Kajiwara of the Wastewater Branch at telephone 586-4290.

Sincerely,



DENNIS TULANG, P.E., CHIEF
Wastewater Branch

Helber Hastert
Planners



January 19, 1993

Mr. Joseph K. Conant
Executive Director
State of Hawaii
Department of Budget and Finance
Housing Finance and Development Corporation
677 Queen Street, Suite 300
Honolulu, HI 96813

Dear Mr. Conant:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISP/N)

Thank you for your letter dated December 3, 1992 (92:PPE/5760at) responding to our request for comments on the above-referenced EISP/N. We have reviewed your comments and the comments contained in your letter of September 25, 1992 (92:PPE/4753j) providing comments during the pre-assessment consultation, and offer the following responses.

The proposed 3,100 residential units included in the project will be priced according to State and County guidelines for affordable housing. A minimum of 60 percent of the homes will be priced in the affordable range. The applicant is committed to the provision of elderly and open rental accommodations. The applicant expects to refine target markets, product types and sales prices over the next year in close consultation with State and County housing agencies.

We appreciate your comments on the development proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Joseph K. Conant

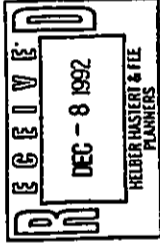
Gail M. Uyetake
Project Planner

cc: Mr. Michael Angoli, Hawaiian Trust

Helber Hastert & Fee
Executive Director, P.H. Emer
733 Bishop Street, Suite 2700
Honolulu, Hawaii 96813
Telephone: (808) 515-2055
Facsimile: (808) 515-2050

JOSEPH K. CONANT
EXECUTIVE DIRECTOR

IN REPLY REFER TO:
92:PPE/5760at



STATE OF HAWAII
DEPARTMENT OF BUDGET AND FINANCE
HOUSING FINANCE AND DEVELOPMENT CORPORATION
677 QUEEN STREET, SUITE 300
HONOLULU, HAWAII 96813
FAX: (808) 517-0000

December 3, 1992

Ms. Gail Uyetake
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Re: Environmental Impact Statement, Wahiawa Lands Development,
Wahiawa District, Oahu, Hawaii

Thank you for the opportunity to provide comments on the proposed draft environmental impact statement.

The environmental assessment (EA) states that 3,000 units are proposed for this development. The project will consist of for-sale market-priced and affordable single family and multi-family units as well as affordable rentals and military family housing. Of the 3,000 units, the EA states that 500 units could be developed for officer housing. We would appreciate if the proposed breakdown for the remaining residential units could be provided as well as the targeted income groups (moderate, low-moderate, low, very low etc).

We would also like to request information if applicable, on targeted special needs groups (e.g., persons who are physically or mentally challenged).

Sincerely,
Joseph K. Conant
JOSEPH K. CONANT
Executive Director

JOHN WAINIZ
GOVERNOR
STATE OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P.O. BOX 1879
HONOLULU, HAWAII 96813

HOALIKU L. DRAKE
CHAIRMAN
HAWAIIAN HOMES COMMISSION

December 2, 1992

Ms. Hoaliku L. Drake, Chairman
Hawaiian Homes Commission
State of Hawaii
Department of Hawaiian Home Lands
P.O. Box 1879
Honolulu, HI 96805

Ms. Gail Uyetake
Helber Haster & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: EIS Preparation Notice, Galbraith Trust
Mahiawa Lands, Mahiawa District, Oahu

The Department of Hawaiian Home Lands (DHHL) is pleased to note that you intend to include a water master plan of the proposed project in your draft environmental impact statement (EIS) that will describe how much potable water will be needed to serve the proposed development and how this water will be supplied.

The DHHL further requests that the water allocation for this project be discussed relative to other projects already proposed for development, within the framework of the Oahu Water Management Plan which is being developed to provide an islandwide view of water resource availability and use over the long term.

Please continue communications with us as a consulted party. Should you have any questions, contact Mr. Ben Henderson of our Planning Office at 586-3838.

Warmest aloha,

Hoaliku L. Drake
Hoaliku L. Drake, Chairman
Hawaiian Homes Commission

HLD:HH:JC:asy
2558L.1



Helber Haster
Planners

Dear Ms. Drake:
Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISPNI)

Thank you for your letter dated November 19, 1992 containing comments on the above-referenced EISPNI.

As requested in your letter, the draft Environmental Impact Statement will discuss the water allocation for the project relative to other projects proposed for development, within the framework of the Oahu Water Management Plan.

We appreciate your timely response to our request for comments on the proposal. Your letter will be reproduced in the draft EIS, which is expected to be published for agency review in January 1993.

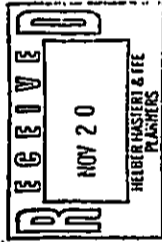
Sincerely,

HELBER HASTER & FEE, Planners

Gail M. Uyetake

Gail M. Uyetake
Project Planner

cc: Mr. Michael Angouti, Hawaiian Trust



November 19, 1992

Helber Haster & Fee
Commerce Center, 1111 Tower

733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Telephone: 808.515.2015
Facsimile: 808.515.2020

ADRIAN WAIKANE
 VALOR GEORGE BELL EDWARD V. RICHMONDSON
 PRINCIPAL CIVIL ENGINEER
 ROY C. PRICE, SR.
 VICE DIRECTOR OF CIVIL ENGINEERING

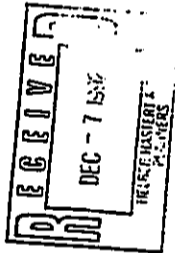


STATE OF HAWAII
 DEPARTMENT OF DEFENSE
 OFFICE OF THE DIRECTOR OF CIVIL DEFENSE
 2111 OAHU ROAD ROAD
 HONOLULU, HAWAII 96818-1115

December 4, 1992



PHONE (808) 734-2161



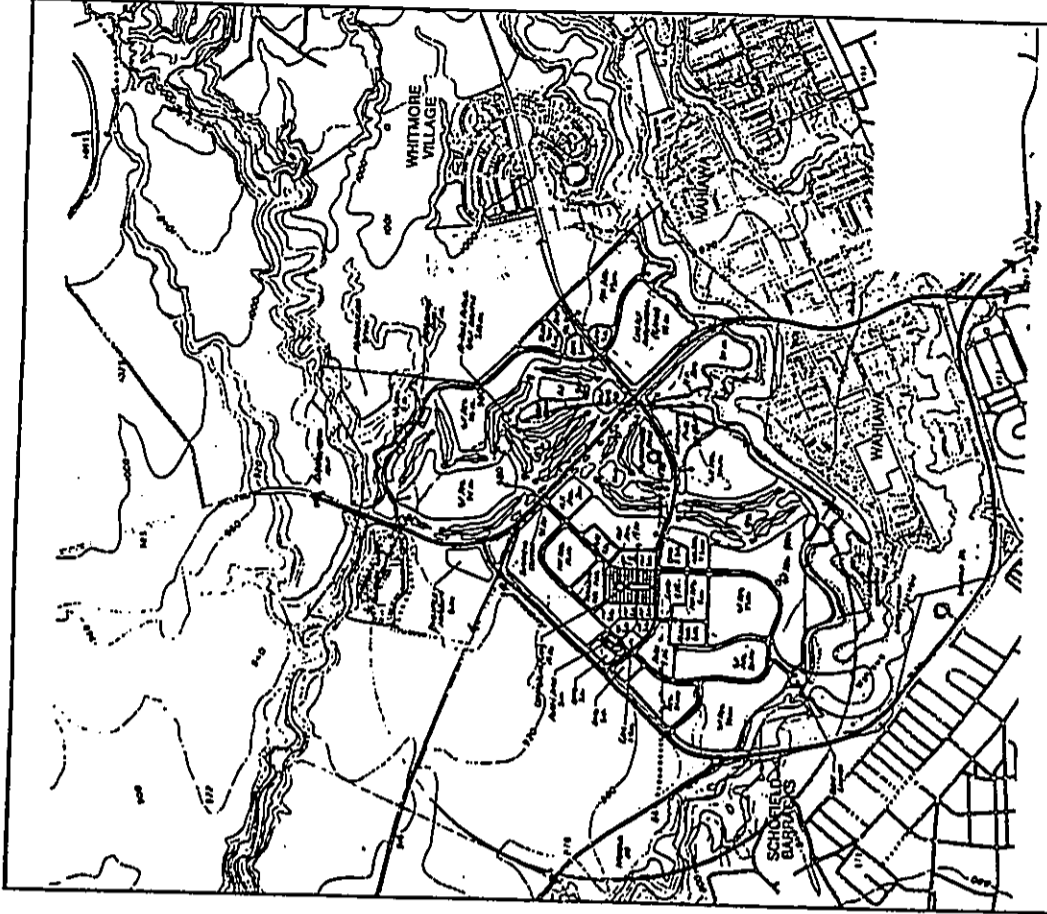
TO: Helber Mastert & Fee, Planners
 ATTENTION: Gail Uyatake, Project Planner
 FROM: Roy C. Price, Sr. *rcp*
 Vice Director of Civil Defense
 SUBJECT: ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE; WAHIAWA
 LANDS DEVELOPMENT

We appreciate this opportunity to comment on Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii. Project area THK: (1)-7-1-001; 005; 006; 007; 008; 025; 026; 029; 031; 032; por. 011; por. 012; por. 13; por. 020; por. 021; & por. 030.

We do not have negative comments specifically directed at this environmental impact statement. However, we do have a proposal for a siren alerting system for the area of application. The proposed subdivision is located in an area not covered by an existing warning device (siren or siren simulator). We propose that a solar powered electronic siren and siren support infrastructure be purchased and installed by the developer to help alert residents of an impending or actual event that threatens the subdivision. This siren must have a minimum output of 121 DB and be compatible with the existing civil defense siren system. The proposed siren requires a 300-foot radius buffer zone in which there is no residential building. The suggested location of this siren is annotated in red in the center of the "Park and Drive" as shown in the "Conceptual Plan" Figure 4, page 1-9. Just as parks, schools, fire hydrants, underground/overhead utilities and sidewalks are planned as integral parts of subdivisions, so must emergency warning systems be planned for the safety of communities.

Our SCD planners and technicians are available to assist in determining the technical specifications of the siren and siren support infrastructure. Please have your staff call Mr. Mel Mishihara of my staff at 734-2161.

Enc.



Conceptual Plan

Figure: 4

WAHIAWA LANDS MASTER PLAN

Prepared For: Gubraish Trust Estate,
 Hawaiian Trust Company, Ltd., Trustee
 Prepared By: Helber Mastert & Fee, Planners



Not to Scale

Helber Haster
Planners

January 8, 1993

Mr. Roy C. Price, Sr.
Vice Director of Civil Defense
State of Hawaii
Department of Defense
Office of the Director of Civil Defense
3949 Diamond Head Road
Honolulu, HI 96816-4495

Dear Mr. Price:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISP/N)

Thank you for your memorandum dated December 4, 1992 responding to our request for comments on the above-referenced EISP/N.

We acknowledge your proposal for locating a siren alerting system for the area of application. The draft EIS will include a discussion of the proposed siren alerting system. We will be in contact with your staff to discuss the requirements of the system.

We appreciate your comments on the development proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTER & FEE, Planners

Gai M. Uyetake
Gai M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust



Helber Haster & Fee
Corporate Center, 1100 Tanager

741 Bishop Street, Suite 2700
Honolulu, Hawaii 96811

Telephone: (808) 515-2955
Facsimile: (808) 515-2924

JOHN WILHELM
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

November 19, 1992

Ms. Gail Uyetake, Project Planner
Helber Hastert & Fee
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Environmental Impact Statement Preparation Notice (EISPN)
Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
THK: (1)-7-1-001: 005; 006; 007; 008; 025; 026; 029; 031; 032;
por. 011; por. 012; por. 013; por. 020; por. 021; & por. 030

Thank you for your letter of November 5, 1992, requesting our
review and comments on the subject document.

We have the following comments:

1. A Traffic Impact Analysis Report (TIAR) for the entire master planned development will be required for our review and approval.
The report should address but not be limited to the traffic impacts and mitigation measures on Kamehameha Highway, Wilikina Road, Whitmore Avenue, Kamananui Road and Kaulanahua Road.
2. Kamehameha Highway, which fronts the development will need to be widened and exclusive turning lanes provided. The developer may be required to dedicate additional rights-of-way in order to construct these roadway improvements.
4. Additional comments will be transmitted upon complete review of the TIAR.

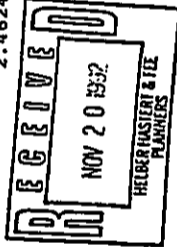
Sincerely,

Rex D. Johnson
Rex D. Johnson
Director of Transportation

REX D. JOHNSON
DIRECTOR
COUNTY DIRECTORS
JOYCE T. OAHNE
AL PANG
JEANNE K. SCHWARTZ
CALVIN H. TSUDA

IN REPLY REFER TO:

HWY-PS
2-4624



Helber Hastert & Fee
Planners

December 2, 1992

Mr. Rex D. Johnson, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813-5097

Dear Mr. Johnson:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISPN)

Thank you for your letter dated November 19, 1992 containing comments on the above-referenced EISPN. We have reviewed your letter and offer the following responses.

1. A Traffic Impact Analysis Report (TIAR) for the entire master planned development is being prepared, and will be included in the draft Environmental Impact Statement (DEIS). The TIAR will address traffic impacts and mitigation measures along Kamehameha Highway, Wilikina Road, Whitmore Avenue, Kamananui Road and Kaulanahua Road. A copy of the report will be forwarded to your department for review.
2. According to the Oahu Regional Transportation Plan (Oahu Metropolitan Planning Organization, June 1992), Kamehameha Highway is planned to provide four lanes with left-turn pockets at intersections for the two-lane section between Wahiawa and Haleiwa by the year 2005. We note that the developer may be required to dedicate additional rights-of-way in order to construct these roadway improvements.

We appreciate your timely response to our request for comments on the proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyetake
Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust

Helber Hastert & Fee
Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

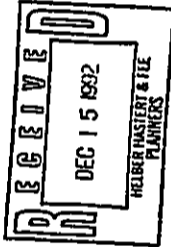
Telephone: 208-515-2153
Facsimile: 208-515-2151



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P. O. BOX 2349
HONOLULU, HAWAII 96813

OFFICE OF THE SUPERINTENDENT

December 1, 1992



Ms. Gail Uyetake
Project Planner
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

SUBJECT: Application for Development Plan Amendment
and Environmental Assessment of Galbraith Trust
Wahiawa Lands

THK: HIA-7-1-001; 005; 006; 007; 008; 025; 026;
031; por. 011; por. 022; & por. 030

Our review of the subject application indicates that the proposed development will have a severe impact on the schools in the area. The planned 3,100 residential units in this subdivision will generate the following number of students for the public schools in the area:

School	Grade	Projected Students
Kaala/Helemano/Hale Kula	K-6	652
Wahiawa Intermediate	7-8	192
Leilehua High	9-12	271

The Department of Education (DOE) cannot assure the availability of classrooms to accommodate the 1,115 students projected from this development. All five schools are operating beyond capacity and face a shortage of classrooms.

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

Ms. Gail Uyetake -2- December 1, 1992

We will request that the developer make a fair-share contribution to the satisfaction of the DOE for the construction of needed school facilities. The draft concept development plan designates two potential elementary school sites of six (6) acres next to a public park. The Department will require that a minimum of eight (8) acres of useable land be set aside for an elementary school if located adjacent to a public park. If a public park is not available, then the Department will require an area of 10-12 acres of useable land for an elementary school.

We request that the developer contact the Department to discuss future plans. Should there be any questions, please call the Facilities Branch at 737-4743.

Sincerely,

Charles T. Toguchi

Charles T. Toguchi
Superintendent

CTT:hy

cc: A. Suga
R. Lee

Helber Haster
Planners

January 11, 1992

Mr. Charles T. Toguchi
Superintendent
Department of Education
P.O. Box 2360
Honolulu, HI 96804

Dear Mr. Toguchi:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISP/N)

Thank you for your letter dated December 1, 1992 containing comments on the above-referenced EISP/N. We have reviewed your comments and offer the following responses.

The information you provided on the projected students generated by the Wahiawa Lands Development will be included in the draft environmental impact statement (DEIS). The DEIS will also include a discussion of the Department's requirements for facilities. We will continue to be in contact with the Department to discuss these requirements.

We appreciate your response to our request for comments on the proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTER & FEE, Planners



Gail M. Uyelake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust



Helber Haster & Fee
Trustees Center, 1111 Ewa
Ave., Honolulu, Hawaii 96813

211 Hilday Street, Suite 2701
Honolulu, Hawaii 96813

Telephone: (808) 515-2975
Facsimile: (808) 515-2976

11-11-92 10:10 AM

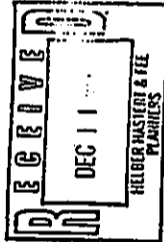
OMPO

Suite 1509
1164 Bishop Street
Honolulu, Hawaii 96813

Oahu
Metropolitan
Planning
Organization

(808) 597-2015
(808) 523-4178
(808) 597-2018 FAX

December 9, 1992



Ms. Gail Uyetake
Project Planner
Helber Hastert & Fee
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Wahiawa Lands Development EISPN

We have reviewed the Environmental Impact Statement Preparation Notice for the Wahiawa Lands Development and have no further comments to offer at this time. We wish to be informed of the traffic impact analysis results being conducted by your transportation consultant.

We are returning our review copy of "Application for Development Plan Amendment and Environmental Assessment - 1993 Annual Review" for your re-use or recycling.

Sincerely,

Gordon G.W. Lum
Gordon G.W. Lum
Executive Director

Enclosure

Helber Hastert
Planners

January 14, 1993

Mr. Gordon G.W. Lum
Executive Director
Oahu Metropolitan Planning Organization
Suite 1509
1164 Bishop Street
Honolulu, HI 96813

Dear Mr. Lum:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISPN)

Thank you for your letter dated December 9, 1992 responding to our request for comments on the above-referenced EISPN and your letter of September 3, 1992 providing pre-assessment comments on the project. We have reviewed your comments and offer the following responses:

1. A traffic impact analysis report was conducted by Wilbur Smith Associates. The findings and mitigation measures contained in the report will be summarized in the draft EIS, and the full report will be included as an appendix to the document.
2. A socio-economic impact analysis was prepared for the project by Community Resources, Inc. This report estimated the number of on-site, indirect and induced jobs the project would generate upon full buildout. Their findings will be summarized in the draft EIS.

We appreciate your comments on the development proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyetake

Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust

Helber Hastert & Fee
Environmental Planners

211 Bishop Street, Suite 1509
Honolulu, Hawaii 96813

Telephone: (808) 515-2015
Facsimile: (808) 515-2018

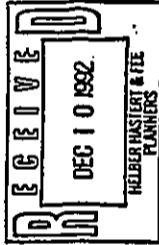


University of Hawaii at Manoa

Environmental Center
A Unit of Water Resources Research Center
Crawford 317 • 2550 Campus Road • Honolulu, Hawaii 96822
Telephone: (808) 956-7361

Mr. Brian Suzuki
Department of General Planning
City and County of Honolulu
650 South King Street, 8th Floor
Honolulu, Hawaii 96813

December 8, 1992
PH: 0084



Dear Mr. Suzuki:

Environmental Impact Statement Preparation Notice (EISPN)
Wahiawa Land Development Plan Amendment
Wahiawa, O'ahu

The applicant, Hawaiian Trust Company, Ltd. (trustee for the Calbraith Trust Estate) is proposing to develop a portion of the Calbraith Trust Estate property north of Wahiawa town and between the Wahiawa Reservoir and Kananani Road. The applicant is seeking to amend the Development Plan use map for Central O'ahu by redesignating approximately 900 acres of land from Agriculture to Residential, Park and Recreation, Low Density Apartment, Commercial Emphasis Mixed Use, Commercial-Industrial Emphasis Mixed Use, Commercial, and Public/Quasi Public. The proposed amendment also seeks to redesignate 32 acres presently occupied by Poamoho Camp from Agriculture to Residential. Approximately 3000 market and affordable units are planned in addition to an 18-hole golf course. A 40-acre business center is to be located at the intersection of Kamehameha Highway and Kananani Road.

The Environmental Center has reviewed this document with the assistance of Jon Matsuzaka, School of Social Work; and Alex Buttaro; Environmental Center.

Social-Economic Impacts

The development of 3000 residential units combined with the various forms of urbanization proposed will most likely incur far-reaching environmental impacts. Based on the findings of the socioeconomic impact analysis under preparation, the EIS should include: (1) a market analysis of the proposed housing; (2) an analysis of the impacts of this project upon property taxes in adjacent areas; (3) a discussion of how the proposed development will transform the social and physical landscape throughout its various phases, or in 5 to 10 year intervals; (4) a discussion of existing

- Equal Opportunity/Affirmative Action Institution

Mr. Brian Suzuki
December 12, 1992
Page 2

and expected demographics; (6) a description of the cumulative impacts resulting from withdrawal of agricultural lands, including a description of the implications of this project upon the region's transformation from agriculture to various other uses; (6) descriptions of how the recreational resources and uses of the existing area will be impacted, and quantitative and qualitative comparisons of existing and potential recreational and economic uses versus proposed uses; (7) a discussion of how the developer plans to mitigate the "severe impact" the Department of Education anticipates this project will have upon public schools in the area, and a justification of the actions to be taken; (8) a discussion of the social and economic impacts of increased traffic upon adjacent communities; and (9) a description of how the affordable component will remain affordable, in spite of the likelihood that speculation will negatively impact affordability.

Historic and Archaeological Resources

The assumption that "there will be no adverse impact to archaeological resources as long as the gulches bordering the development area remain undeveloped" (page V-8) seems premature given the archaeological report has yet to be completed. Our reviewers note that the size and scope of development pose the potential to severely impact subsurface archaeology, in addition to indirectly impacting adjacent resources (e.g. walls in the gulch) through erosion and sedimentation from runoff. The archaeological report should describe in detail: (1) what is known about existing archaeology and prehistoric uses on both on the site and in pertinent surrounding areas; (2) the probability of encountering subsurface resources; (3) mitigative plans recommended for potential impacts to existing and potential resources (4) justifications for the application of various mitigative plans.

Traffic

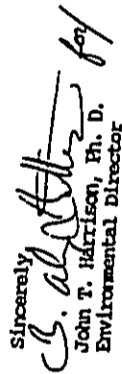
In addition to examining the potential impacts of the proposed development upon immediately surrounding areas, the EIS should describe how major arterials and adjacent regions will be impacted.

Water

The civil engineering and hydrological studies presently being prepared should address the potential impacts that may result from stormwater runoff and redirection of present drainage patterns. Additionally, the project's potential non-point source impacts upon the site and adjacent areas should be discussed.

Mr. Brian Suzuki
December 12, 1992
Page 3

Thank you for the opportunity to review this EISRN and we hope our comments are helpful.

Sincerely,

John T. Harrison, Ph. D.
Environmental Director

cc: Michael Argotti, Hawaiian Trust Company
Gail Uyetake, Halber Fastert and Fee
Jon Matsuoka
Roger Fujioka
Alex Buktaro

Heller Hinstert
Planners

January 14, 1993

Mr. John T. Harrison, Ph.D.
Environmental Director
University of Hawaii at Manoa
Environmental Center
Crawford 317
2550 Campus Road
Honolulu, HI 96822

Dear Mr. Harrison:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISP/N)

Thank you for your letter dated December 12, 1992 (PN:0084) responding to our request for comments on the above-referenced EISP/N. We have reviewed your comments and offer the following responses:

Social/Economic Impacts

1. A market assessment was conducted for the project by Gail W. Alwater and James W. Stanney. The findings of the assessment will be summarized in the draft environmental impact statement (DEIS). The full report will be appended to the DEIS.
2. The areas immediately adjacent to the area of application are in agriculture and open space uses, and thus, property values and taxes of adjacent lands should not be impacted by the project. The project may have a regional impact on property values, and subsequently on property taxes. The significant number of proposed affordable homes, and at least 60 percent of the planned 3,100 homes) will tend to have a stabilizing or mitigating effect on rising residential property values and taxes insofar as the increased supply reduces or mitigates the demand for affordable homes. At the same time, the additional recreational, retail, and employment opportunities proposed in the plan are hoped to complement and reinforce Wahiawa as Central Oahu's civic and retail center, a consequence which should serve to shore-up land values within Wahiawa.
3. The DEIS will include a discussion of the project's potential impacts to the adjacent communities and to the visual resources of the site and surroundings.
4. A discussion of existing and expected demographics will be included in the DEIS.
5. The DEIS will include a discussion of impacts to the agricultural industry due to the withdrawal of the subject lands from pineapple production. An agricultural impact analysis was prepared by Decision Analysts Hawaii, Inc. and will be summarized in and appended to the DEIS.
6. Most of the area of application is in pineapple cultivation or associated operations, with the remaining area (32 acres) occupied by a plantation camp (Poamoho Camp).

Heller Hinstert & H-
Environmental Center, P.O. Box 1
Honolulu, Hawaii 96811

2331 Hobbie Street, Suite 2790
Honolulu, Hawaii 96815
Telephone: 808/515-2055
Facsimile: 808/515-2020



Hilbert Haster
Planners

January 14, 1993
Mr. John T. Harrison, Ph.D.
Page 3

The archaeological survey discusses (1) what is known about existing archaeology and prehistoric uses on both the site and in pertinent surrounding areas; (2) the probability of encountering subsurface resources; and (3) general significance assessments and recommended general treatments.

Traffic

As stated above, the traffic impact analysis report discusses the potential impacts of the project on major arteries and transportation facilities in the area.

Walet

The DEIS will include a discussion of potential drainage impacts of the development as well as potential non-point source impacts and mitigation measures.

We appreciate your comments on the development proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELDER HASTERT & FEE, Planners



Gail M. Uyelake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust

Hilbert Haster
Planners

January 14, 1993
Mr. John T. Harrison, Ph.D.
Page 2

Therefore, other than playfields or informal recreation areas within Poamoho Camp, the development site is not currently used for recreational purposes. Some recreational anglers access the north fork of Lake Wilson through the pineapple fields with permission from the lessee (Del Monte Fresh Produce (Hawaii), Inc.). This access will be improved with the implementation of the plan. The plan also includes a public play golf course, community park, neighborhood parks, ridge-line park, and linear lakefront park, which will provide active recreational opportunities.

7. The proposed development identifies two elementary school sites. According to the Department of Education, the proposed development would generate about 652 elementary school students (K-6), 192 intermediate school students (7-8), and 271 high school students (9-12). With this anticipated school population and the existing conditions at the area's schools, DOE has determined that one new elementary school would be required.

The DOE will request the developer to make a fair-share contribution for the construction of needed school facilities. The DOE will require a minimum of eight acres of usable land be set aside for an elementary school if located adjacent to a public park, or an area of 10-12 acres of usable land if a public park is not available. This information will be included in the DEIS.

8. A traffic impact analysis report was prepared for the project by Wilbur Smith Associates, and will be included in the DEIS. The report describes future conditions of local and regional traffic facilities both with and without the project, and identifies the mitigation measures necessary to provide acceptable traffic flow conditions. Any social and economic impacts due to the difference in traffic levels with and without the project must be considered in light of the increase in affordable housing stock and nearby job opportunities, which will contribute to the economic vitality of the region, reduce overcrowding in the area's dwellings, and potentially reduce the commuting times of the area's residents.

9. Pricing and sales of the affordable homes will be subject to strict State and County guidelines governing resale and speculation.

Historic and Archaeological Resources

The archaeological inventory survey was prepared for the project by Paul H. Rosendahl, Inc. and will be summarized in and included in the DEIS. The survey and accompanying historical research determined that the project area has been greatly disturbed by the agricultural practices that have occurred on the property. Shovel tests were excavated throughout the project area in areas deemed likely to yield intact cultural deposits. No cultural materials were documented in the shovel tests.

The present agricultural operations contribute to erosion and sedimentation through runoff into Poamoho Gulch, which is not regulated by government permit. Runoff from the developed site will be subject to Department of Health Administrative Rules and City and County ordinances and standards governing grading and drainage. Furthermore, the provision of a landscaped ridge-line park along Poamoho Gulch and nearby golf course will reduce siltation and erosion through the turf established on both recreation facilities.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

**BUILDING DEPARTMENT
CITY AND COUNTY OF HONOLULU**
HONOLULU MUNICIPAL BUILDING
130 SOUTH KING STREET
HONOLULU, HAWAII 96813



HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT
BUILDING DEPARTMENT
NOV 19 1992
PB 92-1142

November 17, 1992

Helber Hastert & Fee, Planners
Grosvenor Center, PRI Tower
733 Bishop Street Suite 2590
Honolulu, Hawaii 96813

Attn: Gail Uyetake
Gentlemen:

Subject: Environmental Impact Statement Preparation Notice
Wahiawa Lands Development

Thank you for affording us the opportunity to review the subject preparation notice. However, we do not have comments at this time.

Very truly yours

Herbert K. Muraoka
HERBERT K. MURAOKA
Director and Building Superintendent

cc: J. Harada

Helber Hastert
Planners

November 20, 1992

Mr. Herbert K. Muraoka
Director and Building Superintendent
Building Department
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

Dear Mr. Muraoka:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISPN)

Thank you for your letter dated November 17, 1992 concerning the above-referenced EISPN. We note that you do not have comments at this time. You will have the opportunity to review the draft EIS for the project when it is published, and provide comments at that time.

We appreciate your timely response to our request for comments on the proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail Uyetake

Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust

Helber Hastert & Fee
Grosvenor Center, PRI Tower

733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Telephone: 808-531-2055
Facsimile: 808-531-2051

DEPARTMENT OF GENERAL PLANNING
CITY AND COUNTY OF HONOLULU

450 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK J. ZANI
DIRECTOR

BENJAMIN LEE
Chief Planning Officer
ROLAND LIBBY, JR.
Deputy Chief Planning Officer

BS 11/92-3220

December 4, 1992

Helber Hastert & Fee, Planners
Grosvenor Center, PRI Tower
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Attention: Ms. Gail Uyatake

Gentlemen:

Comments on the Environmental Impact Statement Preparation

Notice (EISPN) for the Proposed

Wahiawa Lands Development (Galbraith Estate)

Tax Map Keys 7-1-01: 5 through 8, 25, 26, 29,

31, 32, Por. 11, 12, 13, Por. 20, 21, and Por. 30

Folder No. 93/CO-1

In response to the Environmental Impact Statement

Preparation Notice (EISPN) of November 5, 1992, for the subject

project, we are submitting the following comments.

The EIS should provide an extensive discussion and analysis of the potential impacts the proposed project would have on the following City plans, objectives, policies and programs.

1) General Plan.

- a) I. Population, Objective C: The distribution of residential population for the Central Oahu Development Plan area and for the Ewa DP area which is intended to encourage the development of a secondary urban center at Kapolei.
- b) II. Economic Activity, Objective C: Maintaining the viability of agriculture on Oahu.
- c) IV. Housing, Objectives A and B: Encouraging the development of low and moderate-income housing and discouraging private development speculation in land and housing.

Helber Hastert & Fee, Planners
December 4, 1992
Page 2

d) V. Transportation and Utilities: Regional infrastructure systems including: transportation, wastewater, water, drainage, refuse and other utilities.

e) VII. Physical Development and Urban Design, Objectives A and B: Directing new development, public facilities and utilities to the Primary Urban Center and Ewa.

2) Development Plans.

a) Common Provisions: Standards for parks and recreational space, preservation areas, social impacts, golf course development, and a community integration program.

b) Special Provisions: Planning and urban design principles and controls for the Central Oahu DP area including the possible addition to the provisions of a new Special Area to address the proposed project.

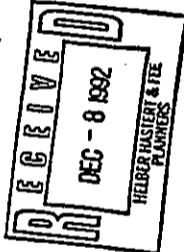
In addition, the EIS should comprehensively address various alternatives on the existing proposed project site including the possible development of an agricultural and/or aquacultural park, and various alternatives that would reduce the size, scale, density, etc. of the project.

We will withhold further comment on other matters of concern to the department pending our review of the Draft EIS. Should you have questions, please call Brian Suzuki of our staff at 527-6073.

Sincerely,

BENJAMIN B. LEE
Chief Planning Officer

BBL:js



Helber Hastert
Planners

January 19, 1993

Mr. Robin Foster
Chief Planning Officer
Department of General Planning
650 South King Street
Honolulu, HI 96813

Dear Mr. Foster:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISP/N)

Thank you for your department's letter dated December 4, 1992 (BS 11/92-3220) responding to our request for comments on the above-referenced EISP/N. We have reviewed your comments and offer the following responses:

The draft environmental impact statement (DEIS) will provide discussion and analysis of the potential impacts of the proposed project on the City plans, objectives, policies and programs listed in your letter. The DEIS will also include a discussion of alternatives to the proposed project.

We appreciate your comments on the development proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners



Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust



Helber Hastert & Fee
Environmental Planning, Inc.

511 Bishop Street, Suite 2700
Honolulu, Hawaii 96813

Telephone: 808-535-2055
Facsimile: 808-535-2050

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
150 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK F. FEE
Mayor

JOSEPH H. MAGALDI, JR.
DIRECTOR

AMAR BAPPAL
DEPUTY DIRECTOR

TE-4682
PL92.1.399

November 24, 1992

Ms. Gail Uyetake
Project Planner

Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Wahiawa Lands Development
Environmental Impact Statement
Preparation Notice (EISPN)
TMK: 7-1-1: 5-8, 25, 26, 31, 32,
POK. 11. 22, and 30

This is in response to your letter dated November 5, 1992
requesting our comments on the subject EISPN.

Our prior comments in the September 25, 1992 letter on the
Development Plan Amendment are still applicable. We may have
more specific concerns after reviewing the traffic impact
analysis which we understand will be prepared with the draft EIS.

Should you have any questions, please contact Lanca Watanabe of
my staff at 523-4199.

Sincerely,

JOSEPH H. MAGALDI, JR.
Director

Helber Hastert
Planners

December 4, 1992

Mr. Joseph M. Magaldi, Jr., Director
Department of Transportation Services
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

Dear Mr. Magaldi:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISPN)

Thank you for your letter dated November 24, 1992 containing comments on the above-
referenced EISPN. We note that the comments in your letter of September 25, 1992 on
the proposed development are still applicable. Our responses to those comments follow:

1. A roadway master plan for all major streets will be submitted to your office upon
amendment of the Development Plan Land Use Map for Central Oahu.
2. The circulation plan limits access to and from individual sites in the vicinity of
major intersections.
3. The final alignment of the roadway adjacent to the northern boundary of the golf
course will minimize the amount of horizontal curve as much as the topography,
orientation of the golf course fairways and property boundary will allow.
4. The concept plan clarifies that Kaukonahua Road west of Kamananui Road will
not be realigned.
5. The project traffic engineer, Wilbur Smith Associates, consulted verbally with
Honolulu Public Transit Authority (HPTA) staff regarding the location of the
park-and-ride facility, but no specific recommendations were forthcoming. The
applicant is pursuing coordination on the facility's location with the HPTA.

We acknowledge that you may have more specific concerns on the project after your
review of the traffic impact analysis report. This report will be included with the draft
EIS.

We appreciate your comments on the EISPN. Your letter will be reproduced in the draft
EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyetake
Project Planner

cc: Mr. Michael Angoli, Hawaiian Trust
Helber Hastert & Fee
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Telephone: 808-515-2053
Facsimile: 808-515-2050

11-24-92 11:30 AM

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96813



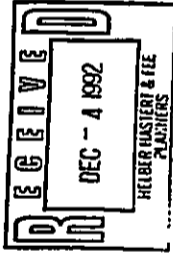
FRANK F. FASH, Mayor
WALTER O. WATSON, JR., Chairman
MAURICE H. YAMAGUCHI, Vice Chairman
SOTER M. DAVLTRY, AHT CHECK, O.S.F.
JOHN W. ANDERSON, JR.
REX D. JOHNSON
MELISSA Y. J. LUM
C. MICHAEL STREET
KAZU HAYASHIDA
Manager and Chief Engineer

December 2, 1992

Ms. Gail Uyetake, Project Planner
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Your Letter of November 5, 1992 Regarding the Environmental Impact Statement Preparation Notice (EISP/N) and Environmental Assessment (EA) for the Proposed Wahiawa Lands Development Project, TMK: 7-1-1: 5-8, 25, 26, 29, 31, 32, Portion 11-13, Portion 20, Portion 21 and Portion 30



Thank you for allowing us to comment on the Environmental Assessment for the Wahiawa Lands Development project.

Our pre-assessment comments of September 21, 1992 are included in the appendix and are still applicable.

If you have any questions, please contact Bert Kuiuoka at 527-5235.

Very truly yours,

Kazu Hayashida
KAZU HAYASHIDA
Manager and Chief Engineer

Helber Hastert
Planners

December 7, 1992

Mr. Kazu Hayashida
Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, HI 96843

Dear Mr. Hayashida:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISP/N)

Thank you for your letter dated December 2, 1992, containing comments on the above-referenced EISP/N. We note that your pre-assessment comments of September 21, 1992 are still applicable. The following is our response those comments:

1. The developer will install all water system facilities needed to serve the project including source, storage reservoir, and transmission mains. The project civil engineer, Sam O. Hirota, Inc., is preparing a utilities report which will be summarized and appended in the draft EIS.
2. A water master plan for the project will be submitted to the Board of Water Supply for review and approval when available.

We appreciate your response to our request for comments on the proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyetake

Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust
Mr. Dennis Hirota, Sam O. Hirota, Inc.

Helber Hastert & Fee
Executive Center, PIII Tower

733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Telephone: 808 515-2155
Facsimile: 808 515-2158

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK F. JASH
DIRECTOR

WALTER M. OZAWA
DIRECTOR
ALVIN K. AU
DEPUTY DIRECTOR

November 20, 1992

Ms. Gail Uyetake
Helber Hastert & Fee
Grosvenor Center, PRI Tower
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Environmental Impact Statement Preparation Notice (EISP)
Mauiwa Lands Development
Tax Map Key 7-1-01: 5 et al

We would like to reaffirm our recreational concerns for the Mauiwa Lands Development project being proposed for consideration for an amendment to the Central Oahu Development Plan 1993 Annual Review.

As stated in our letter of September 24, 1992 (attached), we are unable to assess the project's public park needs without additional information. It is important for you to meet with my staff to discuss the project in detail to establish the number, type, size and location of public parks required to serve the 3,000-unit development. The Amendment which you are now proposing to submit for the 1993 Annual Review does not reflect a public park plan acceptable to the City.

We recommend that you contact Jason Yuen of our Advance Planning Branch at 527-6315 to discuss the recreational needs and park requirements as soon as possible.

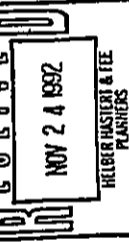
Sincerely,

For WALTER M. OZAWA, Director

WMO:ei

Attachment

cc: Hawaiian Trust Company, Ltd.
Department of General Planning



September 24, 1992

Ms. Gail Uyetake
Helber Hastert & Fee
Grosvenor Center, PRI Tower
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Application for Development Plan Amendment and
Environmental Assessment
Galbraith Trust Mauiwa Lands Development
Tax Map Key 7-1-01: 05 et al

We have reviewed the proposed Mauiwa Lands project for consideration to amend the Central Oahu Development Plan and make the following comments and recommendations.

The size of the project will have a significant impact on our public parks and facilities in the Mauiwa district. It is important that an effective public and private recreation system be established to serve the project.

We are unable to adequately assess the project's public park needs without knowledge of which recreation facilities are to be public or private.

We recommend that you meet with our staff to discuss the project as soon as possible to determine the number, type, size and location of public parks required to serve the 3,000-unit project. Lands to be dedicated to the City for public park purposes must meet City standards and requirements.

Please contact Jason Yuen of our Advance Planning Branch at 527-6315 to discuss the project's recreational needs and park requirements.

Sincerely,

For
WALTER M. OZAWA, Director

WMO:ei (J. Yuen, Adv. Planning)

cc: Department of General Planning

RECEIVED stamp: NOV 24 1992 HELBER HASTERI & FEE PLANNERS

Helbert Haster
Planners

December 7, 1992

Mr. Walter M. Ozawa
Director
Department of Parks and Recreation
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

Dear Mr. Ozawa:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISP/N)

Thank you for your letter dated November 20, 1992 containing comments on the above-referenced EISP/N.

We subsequently met with Mr. Jason Yuen of your Advance Planning Branch to discuss the recreational needs and park requirements of the proposed project. We understand that the City would not be willing to develop and manage all the parks identified in the concept plan, as they exceed the number specified by City park standards. Mr. Yuen indicated that the only park identified in the plan which would be required for the anticipated new residential population is the 14-acre community park. The applicant will continue to consult with your department to provide appropriate recreational facilities for the new development.

We appreciate your response to our request for comments on the proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyciale
Gail M. Uyciale
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust



Helbert Haster & Fee
Customer Center, 170 Tower

733 Bishop Street, Suite 2700
Honolulu, Hawaii 96813

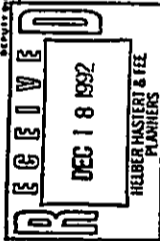
Telephone: (808) 515-2055
Facsimile: (808) 515-2050

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU
480 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK P. ZAH
11-10-92

WALTER M. OZAWA
DIRECTOR
ALVIN K. C. YAP
DEPUTY DIRECTOR



December 14, 1992

Ms. Gail Uyetake
Helber Mastert & Fee
Grosvenor Center, PRI Tower
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Recreational Assessment for the Wahiawa Lands
Development Project
Tax Map Key 7-1-05; 5 et al

Thank you for meeting with my staff on November 30, 1992 to discuss, in detail, the recreation plan for the Wahiawa lands development project as proposed in the Environmental Impact Statement Preparation Notice.

The information that you have provided has enabled my staff to assess and establish a public park plan for the project. The assessment was based on our Park and Facility Standards and under the Development Plan Common Provisions. New developments are required to provide a minimum of two acres of "active" recreation land per 1,000 persons. Based on the 3,000 housing units planned for the project, the project would generate a population of approximately 10,000 persons. Thus, a 20-acre, community type park would be needed to serve the project.

We recommend that the following changes be made to the Concept Development Plan to establish a public park plan acceptable to our department:

Ms. Gail Uyetake
Page 2
December 14, 1992

1. School/Park. Delete the two parks adjacent to the elementary schools and incorporate these areas as part of the school site.
2. Community Park. Increase the size of the park to 20 acres. Relocate the park site to a location more central and accessible to where the majority of the housing units are being proposed to be developed.

Lands to be dedicated to the city for public park purposes must meet City standards and requirements. Lands shall be dedicated, graded, grassed with a permanent irrigation system and provided with all off-site improvements at no cost to the City. The size and configuration must also be able to accommodate the basic facilities provided in a community park (see attached Park and Facility Standards).

Please contact Jason Yuen of our Advance Planning Branch at 527-6315 to discuss and locate the 20-acre community park site within the project.

Sincerely,

WALTER M. OZAWA, Director

WMO:ei

Attachment

cc: Department of General Planning
Hawaiian Trust Company, Ltd.





Heller-Hisbert
Planners

January 22, 1993
Mr. Walter M. Ozawa
Director
Department of Parks and Recreation
City and County of Honolulu
630 South King Street
Honolulu, HI 96813

Dear Mr. Ozawa:

Recreational Assessment for the Wahiawa Lands Development Project
Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii

Thank you for your letter dated December 14, 1992 regarding the above-referenced project. We have reviewed your comments and offer the following responses.

The plan as proposed recognizes a hierarchy of parks and open space areas, consistent with the parks standards included in your letter. Two smaller, neighborhood parks have been located within each of the two major residential areas to provide for neighborhood-level recreational needs. Neighborhood parks are viewed as being important in defining the neighborhood and contributing to a sense of place.

A larger, community park is located adjacent to the main project collector roadway near Kamehameha Highway to serve project-wide residents and those from nearby communities. The community park is sited next to the Wahiawa Reservoir and the proposed linear park along the Wahiawa Reservoir frontage, effectively tying it into the larger system of linear parks. We hope the reservoir frontage will create some exciting visual opportunities for park-goers (we recognize physical access to the reservoir in this area is difficult due to the steep sides of the reservoir).

A six-acre passive park is planned to surround the State's Birthing Stone (Kukanihiko) historic park to provide added buffer to this important cultural site. Our intent is to work closely with DLNR and the local community to assist them in preparing and implementing a master plan for the Birthing Stone historic park. The proposed historic park is located on the opposite side of the main project collector roadway fronting the proposed community park, with the roadway serving as a transitional element between the passive and active areas.

We appreciate your recommendations to delete the neighborhood parks, increase the size of the community park and move the community park to a location more central and accessible... We are, however, concerned about your recommendation to delete

Heller-Hisbert A. L.,
1110 Bishop Street, Suite 2704
Honolulu, Hawaii 96813
Telephone: (808) 551-2000
Telex: (808) 551-2000

RECREATION PARK AND FACILITY STANDARDS

	MINI PARKS	NEIGHBORHOOD PARKS	COMMUNITY PARKS	DISTRICT PARKS	OTHER: URBAN PARKS AND SQUARES	CITY AND COUNTY ISLAND WIDE PARKS	LINKAGES
MINIMUM AREA REQUIRED FOR 1,000 POPULATION	3 acres (250 sq. ft. dwelling units)*				10% of Maximum Floor Area for Business Districts	8 acres	LINKAGES BIKEWAYS, PEDESTRIAN WAYS, STREAM/GREENBELT TRAILS, TRANSPORTATION SERVICES
SERVICE AREA POPULATION	—	approximately 5,000	approximately 10,000	approximately 25,000	—	PARK TYPES Regional Parks Large recreation complexes Camping and vacationing (beach, inland & urban sites)	
AVERAGE SITE SIZE	—	4-6 acres	10 acres	15-20 acres	—	Neighborhood Parks Day use parks primarily for swimming, sunbathing, and picnicking	
SERVICE AREA	1/2 mile*	1/2 mile*	1 mile*	2 miles*	—	Transit and Transit Stations	
SCHOOL RELATIONSHIP	—	Joint Use With Elementary School	Possible Joint Use With Intermediate Schools	Healthier Joint Use With Intermediate And High Schools	—	Public Parks Day use parks primarily for swimming, sunbathing, and picnicking	
BASIC FACILITIES (MAY BE ADMITTED TO MEET PARTICULAR COMMUNITY NEEDS)	LANDSCAPING Benches, Tables	Children's Play Area 2 Basketball Courts 2 Volleyball Courts 1-2 Softball Fields Comfort Station	Children's Play Area 1-4 Basketball Cts. 1-4 Volleyball Cts. 1-2 Softball Fields Comfort Station/ Recreation Bldg.	Children's Play Area 1-4 Basketball Cts 1-4 Volleyball Cts 2 Softball Fields 1 Baseball Field 1 Soccer/Football Field 4-6 Tennis Courts Gym/Rec Bldg. Complex 1-25 yd or m pool	Landscaping and Landscape Features	Transit and Transit Stations Public, Semi-Public 10 Miles/100,000 Living Parks and Recreation Significant natural areas water control of the C & C of Honolulu and including urban stream greenbelts	
ADDITIONAL DESIRABLE FACILITIES	Children's Play Area	Shelter Passive Area	Passive Area 1 Baseball Field	Passive Area Jogging Trail Archery	Comfort Station	—	
RECREATION STAFF REQUIREMENTS	—	0	1 Rec. Director	1 Rec. Director 1 Gym Complex Director 1 Pool Supervisor	—	— *Park Ordinance, 1976 *Joint Use Agreement between City & State, 1986	

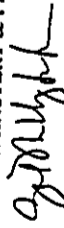
Helber Hastert
Planners

January 22, 1991
Mr. Walter M. Ozawa
Page 2

the neighborhood parks, and will follow up with Mr. Jason Yuen of your Advance Planning Branch to discuss these recommendations further.

Sincerely,

HELBER HASTERT & FEE, Planners


Gail M. Uyeake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust

22 JAN 23 1991 10 10 AM '91

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

430 SOUTH KING STREET
HONOLULU, HAWAII 96813

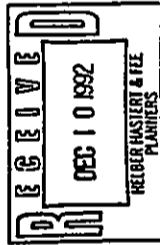


FRANK J. PAHI
DIRECTOR

C. MICHAEL STREET
DIRECTOR AND CHIEF ENGINEER
FELIX B. LIMTIACO
DEPUTY DIRECTOR

ENV 92-292

December 3, 1992



Ms. Gail Uyetake, Project Planner
Helber Hastert & Fee
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Environmental Impact Statement Preparation Notice (EISPN)
Wahiawa Lands Development
TMK: 7-1-01:5 through 8, 25, 26, 29, 31, 32, por. 11, 12,
13. BOX 20, 21 and BOX 30

In addition to our previous comments made during the review of the Environmental Assessment (see attached), we have the following comments:

1. For your information, thirty (30) days prior to the commencement of the construction, a general or individual NPDES permit application for storm water discharge associated with construction activities should be submitted to the State Department of Health for review and approval if the disturbed area caused by clearing and grubbing, stockpiling and grading activities exceeds five (5) acres or more.
2. In addition, dewatering permits are also required by the State as well as the City should such activity be anticipated during the construction.

Very truly yours,

C. MICHAEL STREET
Director and Chief Engineer

Attach.

ENVIRONMENTAL ENGINEER

ENV 92-246

September 30, 1992

Ms. Gail Uyetake, Project Planner
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Application for Development Plan Amendment and Environmental Assessment (EA)
Galbraith Trust Wahiawa Lands
TMK: Various

We have reviewed the subject EA and have the following comments:

1. All new roads within the Wahiawa Lands Master Plan that are planned to be dedicated to the City should be designed and constructed in accordance with City standards.
2. A traffic study is required as part of the Draft Environmental Impact Statement and should be submitted to us for review and comment.
3. A drainage report should also be submitted to the Drainage Section, Division of Engineering, for review and approval.
4. The existing Wahiawa and Whitmore Village municipal sewer systems are located adjacent to the proposed Galbraith Trust development. However, neither sewer system was planned and designed for, nor is capable of servicing the proposed development at this time.
5. Currently, we do not have plans to expand the existing Wahiawa or Whitmore Village sewer systems to serve future developments since we are undertaking a study to divert the effluent discharges of the two treatment plants from Lake Wilson. The most feasible alternative will be recommended upon the completion of the study which is tentatively scheduled for late 1993.

Ms. Gail Uyatake
Page 2
September 30, 1992

6. If the development is being proposed at this time, a private wastewater treatment plant will have to be constructed to provide adequate sewer services. Such treatment plant will have to obtain approval from the State Department of Health.
7. The environmental assessment (EA) or the draft environmental impact statement (DEIS) should address the impact of storm water discharges from the proposed municipal storm sewer system on water quality of the receiving water.
8. The EA or the DEIS should also state what structural or non-structural best management practice (BMP) will be provided to control and reduce the discharge of pollutants to the maximum extent practicable (MEP) as outlined in the National Pollutant Discharge Elimination System (NPDES) regulations (40 CFR Part 122, Subpart B for municipal storm water systems).

Very truly yours,

C. Michael Street

C. MICHAEL STREET
Director and Chief Engineer

bcc: Division of Engineering
Division of Wastewater Management

Hilbert Hestert
Fluor

January 20, 1993

Mr. C. Michael Street
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
630 South King Street
Honolulu, HI 96813

Dear Mr. Street:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISPEN)

Thank you for your letter dated December 3, 1992 (ENV 92-292) responding to our request for comments on the above-referenced EISPEN. We have reviewed your comments, along with the comments contained in your letter of September 30, 1992 (ENV 92-246), and offer the following responses.

1. The draft environmental impact statement (DEIS) will note that an NPDES permit application for storm water discharge associated with construction activities should be submitted to the State Department of Health if the disturbed area caused by clearing and grubbing, stockpiling and grading activities exceeds five acres or more.
2. The DEIS will also state that dewatering permits will be required by the State and City if such activities are anticipated during project construction.
3. Wilbur Smith Associates prepared a traffic impact analysis report for the project. This will be included in the DEIS. A copy of the report will be forwarded to your department for review and comment.
4. The project civil engineers, Sam O. Hirota, Inc., prepared infrastructure studies for the project, which includes a drainage report. This report will be included in the DEIS. A copy of the report will be forwarded to the Drainage Section, Division of Engineering, for review and comment.
5. The project civil engineers recommended the development of a 4.61 mgd tertiary-level treatment plant to process wastewater generated by the project. This treatment plant will require approval from State Department of Health. A portion of the treated effluent could be used to irrigate the proposed golf course and other public landscaped areas. The remaining effluent could be made available to adjacent agricultural operators or discharged into Lake Wilson. This discharge would be subject to government permitting requirements for water quality. This information will be included in the DEIS.
6. The DEIS will include a discussion of the impacts of the storm water discharges from the proposed municipal storm sewer system on water quality of the receiving

16-Hwy. H-1, Honolulu, HI 96813
Telephone: (808) 531-2000
Facsimile: (808) 531-2000

Heller HASTERT
Planners


January 20, 1993
Mr. C. Michael Street
Page 2

6. The DEIS will include a discussion of the impacts of the storm water discharges from the proposed municipal storm sewer system on water quality of the receiving water.
7. The DEIS will describe measures to control and reduce the discharge of pollutants associated with increased storm water volumes contributed by the project. These include possible detention and settling ponds within the golf course, and vegetative buffers between the urban development and the adjacent gulches. These buffers will reduce the amount of sediment and chemicals reaching the adjacent water resources through erosion and runoff.

We appreciate your comments on the development proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBERT HASTERT & FEE, Planners


Gail M. Uyetake
Project Planner

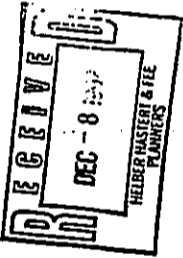
cc: Mr. Michael Angotli, Hawaiian Trust

DEPARTMENT OF HUMAN RESOURCES
CITY AND COUNTY OF HONOLULU
STANDARD FINANCE BUILDING
715 SOUTH KING STREET, 2ND FLOOR
HONOLULU, HAWAII 96813 • 808/532-3111



FRANK E. KAHU
MAYOR

VICTOR D. GUILLERMO, JR.
DIRECTOR
RUBY PACARRO
DEPUTY DIRECTOR



December 3, 1992

Ms. Gail Uyetake
Project Planner
Helber Hastert & Fee, Planners
Grosvenor Center, PRT Tower
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

SUBJECT: Environmental Impact Statement Preparation Notice (EISP/N)
Wahiawa Lands Development
Wahiawa District, Oahu, Hawaii
TMK: (1)-7-1-001: 005; 006; 007; 008; 025; 026; 029; 031; 032;
por. 011; por. 012; por. 013; por. 020; por. 021; & por. 030

Dear Ms. Uyetake:

This is to acknowledge receipt of your letter of November 5, 1992 and accompanying Environmental Impact Statement Preparation Notice (EISP/N) for the proposed Wahiawa Lands Development project.

We will reserve making any additional comments to our previous letter dated September 24, 1992 pending review of the draft Environmental Impact Statement for the project cited above.

Thank you.

Sincerely,

Victor D. Guillermo, Jr.
VICTOR D. GUILLERMO, JR.
Director
Department of Human Resources

Helber Hastert
Planners

January 8, 1993

Mr. Victor D. Guillermo, Jr.
Director
Department of Human Resources
City and County of Honolulu
715 South King Street, 2nd Floor
Honolulu, HI 96813

Dear Mr. Guillermo:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISP/N)

Thank you for your letter dated December 3, 1992 responding to our request for comments on the above-referenced EISP/N. We acknowledge that the comments contained in your letter dated September 24, 1992 are still relevant and that you reserve making additional comments pending review of the draft EIS. We offer the following responses to your comments of September 24:

1. The development proposal includes an elderly housing component, likely to be located in the town center area, close to commercial, recreation and civic activities. The exact number of units and their location will be determined as more detailed plans are developed.
2. We appreciate the information you provided on the growing need for child care services in the region. The development concept plan recognizes this need and identifies areas that could be used as child care facilities.
3. The applicant (Hawaiian Trust Company, Ltd.) is committed to developing a significant (a minimum of 60 percent) number of affordable residential units, some of which will be affordable rentals. The exact number of units will be determined as the planning process progresses.

We appreciate your comments on the development proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyetake
Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust

Helber Hastert & Fee
Grosvenor Center, PRT Tower
Honolulu, Hawaii 96813

241 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Telephone: 808/532-3111
Facsimile: 808/532-3120

10-11-92 12:15 PM

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU

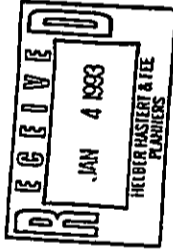
830 SOUTH KING STREET, 5TH FLOOR
HONOLULU, HAWAII 96813
PHONE: (808) 933-4227 • FAX: (808) 937-5498



December 23, 1992

FRANK FAS
MAYOR

E. JAMES TURSE
DIRECTOR
GAIL M. UYETAKE
DEPUTY DIRECTOR



Helber, Haster and Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Attention: Gail Uyetake

Gentlemen:

Subject: Environmental Impact Statement Preparation Notice (EISP/N)
Wahiawa Lands Development
Wahiawa District, Oahu, Hawaii
THK: (1)-7-1-001: 005, 006; 007; 008; 025; 026; 029; 031; 032;
por. 011; por. 012; por. 013; por. 020; por. 021; & por. 030

We do not have substantive comments to offer at this time. However, it is the Department's policy to recommend that a minimum of 30% of units in new developments, which are rezoned, be set aside for affordable housing. At the discretion of the Department, monetary fees or the dedication of land in lieu of housing units may be accepted. Please note that in the case of the proposed project, which will involve the development and sale of residential lots, the aforementioned affordability criteria shall apply to the prices of combined house-and-lot packages.

Thank you for the opportunity to review and comment on the EISP/N for the subject project.

Sincerely,

E. JAMES TURSE
Director

Helber Haster
Planners

January 19, 1993

Mr. E. James Turse
Director
Department of Housing and Community Development
City and County of Honolulu
650 South King Street, 5th Floor
Honolulu, HI 96813

Dear Mr. Turse:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISP/N)

Thank you for your letter dated December 23, 1992 responding to our request for comments on the above-referenced EISP/N. We have reviewed your comments and offer the following responses.

The project will conform to State and City guidelines on the provision of affordable housing. We acknowledge that the City's affordability criteria shall apply to the prices of combined house-and-lot packages, in the case of the proposed project.

We appreciate your comments on the development proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTER & FEE, Planners

Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust

Helber Haster & Fee
Governor Center, 11th Floor

714 Bishop Street, Suite 2700
Honolulu, Hawaii 96811

Tel: phone 296-515-2055
Fax: (808) 937-5498

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
3375 KOAIPAKA STREET, SUITE 2590
HONOLULU, HAWAII 96813-1869



FRANK F. FARM
MAYOR

LIONELE E. CAMARA
FIRE CHIEF
DONALD S. CHANG
DEPUTY FIRE CHIEF

December 10, 1992

Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Attention: Gail Uyetake
Gentlemen:

Environmental Impact State Preparation Notice (EISPN)

Wahiawa Lands Development
Wahiawa District, Oahu, Hawaii

TMK: (1)-7-1-001: 005; 006; 007; 008; 024; 026; 029; 031; 032;
por. 011; por. 012; por. 013; por. 020; por. 021; & por. 030

We have reviewed the subject material provided and have no
additional comments.

Should you have any questions, please contact Assistant Chief
Attilio Leonardi of our Administrative Services Bureau at 841-7775.

Attilio K. Leonardi
LIONELE E. CAMARA
Fire Chief

AKL:ny

Attachment: Environmental Assessment Report



Helber Hastert
Planners

December 29, 1992

Mr. Lionel E. Camara
Fire Chief
City and County of Honolulu
Fire Department
3375 Koaipaka Street, Suite H425
Honolulu, HI 96819-1869

Dear Chief Camara:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISPN)

Thank you for your letter dated December 10, 1992 containing comments on the above-
referenced EISPN.

We appreciate your response to our request for comments on the proposal. Your letter
will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyetake

Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust

Helber Hastert & Fee
Commerce Center, P.O. Box 111
Honolulu, Hawaii 96813

733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Telephone: 808-515-2055
Facsimile: 808-515-2050

RECEIVED
DEC 14 1992
HELBER HASTERT & FEE
PLANNERS

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU

881 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96813 - AREA CODE (808) 519-3111

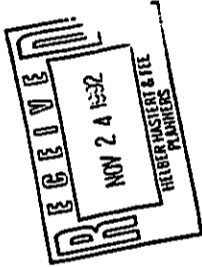


FRANK F. JASI
MAYOR

MICHAEL S. NAKAMURA
CHIEF
HAROLD M. KAWASAKI
DEPUTY CHIEF

OUR REFERENCE
CS-LX

November 17, 1992



Ms. Gail Uyetake, Project Planner
Helber Hastert and Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Environmental Impact Statement Preparation Notice (EISP/N) Wahiawa
Lands Development, Wahiawa District, Oahu, Hawaii, TRK1 (1)-7-1-
001; 005; 006; 007; 008; 029; 026; 029; 031; 032; por. 011; por.
012; por. 013; por. 020; por. 021; & por. 030

We have reviewed the subject document as requested in your letter of November
5, 1992. Major Herbert Okemura's comment of September 3, 1992 and the comment
letter dated September 21, 1992 which were both included in the subject
document are still applicable.

We know that the addition of new businesses, schools, parks and 3,000 homes to
the district will inherently cause an increase in the demands for police
service for the area. This will inevitably require the addition of police
beats, manpower and possibly an expansion of the current Wahiawa Police
Station. Therefore, we repeat our concerns about public safety and security
and traffic flow and continue to encourage the adoption of measures that will
help minimize calls for police services in order to minimize the need for
additional manpower and facilities.

Thank you for the opportunity to respond.

Sincerely,

MICHAEL S. NAKAMURA
Chief of Police

By *[Signature]*
CHESTER E. HUGHES
Assistant Chief of Police
Support Services Bureau

Helber Hastert
Planners

November 30, 1992

Mr. Michael S. Nakamura
Chief of Police
Police Department
City and County of Honolulu
801 South Beretania Street
Honolulu, HI 96813

Dear Chief Nakamura:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISP/N)

Thank you for your letter dated November 17, 1992 containing comments on the above-
referenced EISP/N. We note that Major Herbert Okemura's comments of September 3,
1992 and your comment letter dated September 21, 1992 are still applicable. Your
comment that the development is likely to result in an increase in police service in the
long term, which may require additional personnel and supporting equipment is
acknowledged and will be discussed in the draft environmental impact statement (DEIS).
The DEIS will also include a discussion of possible measures to mitigate the project's
public safety and traffic impacts.

We appreciate your timely response to our request for comments on the proposal. Your
letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

[Signature]

Gail M. Uyetake
Project Planner

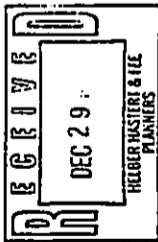
cc: Mr. Michael Angotti, Hawaiian Trust

Helber Hastert & Fee
C/O Warner Center, P.O. Box 1000
Honolulu, Hawaii 96813

733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Telephone: (808) 519-2055
Facsimile: (808) 519-2050

HONOLULU PUBLIC TRANSIT AUTHORITY
CITY AND COUNTY OF HONOLULU
 PACIFIC PARK PLAZA, SUITE 275
 HONOLULU, HAWAII 96813



BOARD OF DIRECTORS
 THEODORE C. JUNG
 CHAIRMAN
 JOSEPH M. MAGALON, JR.
 VICE-CHAIRMAN
 ALEXANDER BROOKE
 RUSSELL W. HAYAKI
 WILLIAM E. SPENCER, JR.
 JAMES L. O'SULLIVAN
 EXECUTIVE DIRECTOR

December 22, 1992

2676-92

Ms. Gail M. Uyetake
 Helber Hastert & Fee, Planners
 733 Bishop Street, Suite 2590
 Honolulu, Hawaii 96813

Dear Ms. Uyetake:

This is in response to your letter dated December 4, 1992, requesting review and comments on the Wahiawa Lands Development plans. Our comments are as follows:

1. Only 2.0 acres is set aside for a park and ride facility which is not adequate. We would require 5.0 acres for a combination park and ride/child care facility. The location of this facility should be adjacent to Kamehameha Highway and near the southern most portion of the development area.
2. Your traffic impact analysis report should include potential for public transportation. The development should provide for adequate circulation routes, locations for bus stops, need for shelters and bus bays, and a development transportation manager to work with the private sector to provide transit services.

If you have any questions or need more information, please contact Howard K. Takara, Chief, Bus Systems Division, at 523-4138.

Sincerely,

James L. O'Sullivan
 JAMES L. O'SULLIVAN
 Executive Director

Helber Hastert
 Planners

January 22, 1993

Mr. James O'Sullivan
 Executive Director
 Honolulu Public Transit Authority
 711 Kapiolani Boulevard, Suite 275
 Honolulu, HI 96813

Dear Mr. O'Sullivan:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii

Thank you for your letter dated December 22, 1992 (2676-92) responding to our request for comments on the above-referenced project. We have reviewed your comments and offer the following responses.

1. The plan allocates a 2-acre park-and-ride facility with a 2-acre and a separate 3-acre "civic" area adjacent to the major project entry at Kamananui Road. We intend to work closely with your department and other government and civic organizations to integrate the park-and-ride facility into the larger civic area to maximize the appeal and use of the facility. The facility was sited at the Kamananui Road access for the following reasons: (a) this will be the only project access to serve the first phase of development; (b) the project traffic engineers indicate that this intersection will receive most of the project traffic... Most vehicles traveling to/from south of Wahiawa would use Wilikina Drive (and Kamananui Road) rather than Kamehameha Highway to reach the H-2 Freeway and Kamehameha Highway south of Wahiawa... (Wilbur Smith Associates, page 15); and (c) the Kamehameha Highway access is proximate to the culturally significant Kukaniloko Birthing Stones State Historic Park and therefore may not be an appropriate location for such a facility.
2. The street system was designed, in part, to provide for the through-routing of buses. The applicant will continue to consult with your department as the planning and design for the project progresses, in order to address the public transportation issues and needs described in your letter.

We appreciate your comments on the development proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyetake
 Gail M. Uyetake
 Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust

Helber Hastert & Fee
 Executive Center, PHH Tower
 210 Bishop Street, Suite 2590
 Honolulu, Hawaii 96813
 Telephone: (808) 535-2655
 Facsimile: (808) 535-2656



200 Akamaiui Street • Mililani, Hawaii 96789-3999 • Telephone: (808) 625-2100

November 10, 1992

HELBER HASTERT & FEE PLANNERS
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813
Attention: Gail Uyetake, Project Planner

Subject: Environmental Impact Statement Preparation Notice (EISPN)
Wahiawa Lands Development
Wahiawa District, Oahu, Hawaii

Dear Ms. Uyetake:

This is in regards to your letter of November 5, 1992 relative to the above subject. This is to confirm that we do not foresee any adverse or negative impact on Oceanic as a result of this planned development.

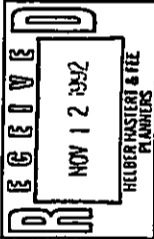
Please be advised that we presently have aerial CATV trucking facilities along Whitmore Avenue and Kamehameha Hwy. extending out to Poamoko Camp area. Accordingly, we do not foresee any problems in planning for your future service requirements.

Should you have any further questions, please call me at 625-8345.

Sincerely,

Don Camacho
Don Camacho
Director of Administration

DC:sb



Helber Hastert
Planners

November 20, 1992

Mr. Don Camacho
Director of Administration
Oceanic Cable
200 Akamaiui Street
Mililani, HI 96789-3999

Dear Mr. Camacho:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISPN)

Thank you for your letter dated November 10, 1992 containing comments on the above-referenced EISPN. We note that you do not foresee any adverse or negative impact on Oceanic Cable as a result of the planned development. We also note that there are aerial CATV trucking facilities along Whitmore Avenue and Kamehameha Highway extending to Poamoko Camp, and that you do not foresee any problems in providing for the project's service requirements.

We appreciate your timely response to our request for comments on the proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyetake

Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust

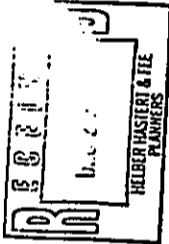
Helber Hastert & Fee
Consulting Center, 1401 Tinserr

733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Telephone: (808) 515-2155
Facsimile: (808) 515-2150



William A. Donnet
Manager
Environmental Department



December 21, 1992

Ms. Gail Uyetake
Helber Haster & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Environmental Impact Statement Preparation Notice
Wahiawa Lands Development
Wahiawa District, Oahu

We have reviewed the subject EISPN, and have no comments on the proposed Wahiawa Lands Development project at this time. HECO shall reserve further comment pertaining to the protection of the existing 44 kv subtransmission powerlines (see attachment) located in the development area until construction plans are finalized.

Sincerely,

William A. Donnet

Attachment

An HEI Company



Soils

Figure: 2

Wahiawa Lands Master Plan

Prepared For: Galtsoff Trust Estate,
Hawaiian Trust Company, Ltd., Trustee
Prepared By: Helber Haster & Fee, Planners



Not to Scale

1-5

Helber Haster
Planners

January 8, 1993

Mr. William A. Bonnet
Manager, Environmental Department
Hawaiian Electric Company, Inc.
P.O. Box 2750
Honolulu, HI 96840-0001

Dear Mr. Bonnet:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISPN)

Thank you for your letter dated December 21, 1992 responding to our request for comments on the above-referenced EISPN. We acknowledge that HECO reserves further comment pertaining to the protection of the existing 44 kV subtransmission powerlines located in the development area until construction plans are finalized.

We appreciate your input on the development proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyelake
Gail M. Uyelake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust
Mr. Dennis Hirota, Sam O. Hirota, Inc.



Helber Haster & Fee
Government Center, 17th Floor

210 Bishop Street, Suite 2700
Honolulu, Hawaii 96811

Telephone: (808) 535-2015
Facsimile: (808) 535-2020

GTE Hawaiian Tel

Beyond the call

GTE Hawaiian Telephone Company Incorporated
P.O. Box 7200, Honolulu, HI 96841 - (808) 546-4511

November 23, 1992

Helber Hastert & Fee, Planners
738 Bishop Street
Suite 2590
Honolulu, HI 96813

Attention: Gail Uyetake

Subject: Environmental Impact Statement Preparation
Notice (EISP/N) - Wahiawa Lands Development

Thank you for the opportunity to comment on the above subject project. The comments sent to your office on September 24, 1992 are still applicable. Please be aware of the existing buried and aerial cables that run through the project area. Any relocation work must be coordinated through this office. Any questions on what infrastructure is required for new service should be directed to Exchange Planner, Francis Alueta, at #546-7368.

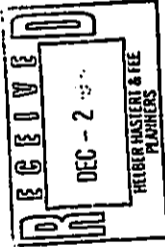
If there are any other questions, please call Garret Hayashi at #834-6262.

Sincerely,



Francis Alueta
Operations Manager
Outside Plant Engineering

c: F. Alueta
R. Seo
File



Helber Hastert
Planners

December 4, 1992

Mr. Winslow I. Tanabe
Operations Manager
Outside Plant Engineering
GTE Hawaiian Telephone Company, Inc.
P.O. Box 2200
Honolulu, HI 96841

Dear Mr. Tanabe:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Environmental Impact Statement Preparation Notice (EISP/N)


Thank you for your letter dated November 23, 1992 containing comments on the above-referenced EISP/N. We note that the comments contained in your letter of September 24, 1992 are still applicable.

We also acknowledge that there are existing buried and aerial cables that run through the project area. The marked up plan you provided was transmitted to the project civil engineers, Sam O. Hirota, Inc. We are aware that any relocation work must be coordinated through your office.

We appreciate your response to our request for comments on the proposal. Your letter will be reproduced in the draft EIS.

Sincerely,

HELBER HASTERT & FEE, Planners


Gail M. Uyetake
Project Planner

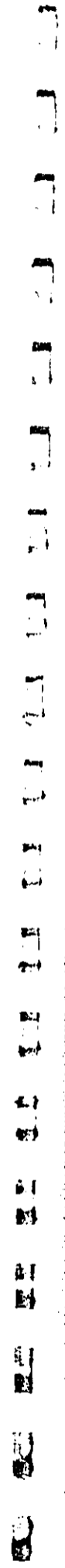
cc: Mr. Michael Angouli, Hawaiian Trust



Helber Hastert & Fee
Construction Center, 17th Tower

733 Bishop Street, Suite 2200
Honolulu, Hawaii 96813

Telephone: 808 546 2033
Facsimile: 808 546 2020



CHAPTER 12

Comments Received in Response
to the Pre-Assessment Consultation

CHAPTER 12 COMMENTS RECEIVED IN RESPONSE TO THE PRE-ASSESSMENT CONSULTATION

As part of the pre-assessment consultation provisions contained in Hawaii Administrative Rules, 11-200-9(a), comments based on preliminary project information were requested from the following agencies and organizations. An asterisk (*) beside an agency name indicates that written comments were received from that agency. A pound sign (#) next to an agency name denotes that verbal comments were received from the agency. Written agency comments received by October 28, 1992 are reproduced in this section.

Federal

- * Department of the Navy, Naval Computer and Telecommunications Area
Master Station Eastern Pacific
- * Department of the Army, U.S. Army Engineer District
Department of the Interior, Fish & Wildlife Service
Department of the Interior, National Park Service
Department of Commerce, National Marine Fisheries Service
Department of Housing and Urban Development
- * Department of Agriculture, Soil Conservation Service
- * Department of Transportation, Federal Aviation Administration

State

- * Department of Land and Natural Resources, Historic Preservation Division
- * Department of Business, Economic Development and Tourism, Energy Division
- * Department of Business, Economic Development and Tourism
Land Use Commission
- * Department of Human Services
Office of State Planning
Department of Accounting and General Services
- * Department of Agriculture
Department of Business, Economic Development & Tourism
- * Department of Health
- * Board of Land and Natural Resources
- * Housing Finance and Development Corporation
- * Department of Hawaiian Home Lands
- * Office of Environmental Quality Control
Office of Hawaiian Affairs
Department of Defense
- # Commission on Water Resource Management
- *# Department of Transportation
- # Department of Land and Natural Resources, State Parks Division
- *# Department of Education
- * Oahu Metropolitan Planning Organization
University of Hawaii Environmental Center
University of Hawaii Water Resources Research Center

City and County

- * Building Department
- Department of General Planning
- *# Department of Transportation Services
- * Board of Water Supply
- Department of Finance
- * Department of Parks and Recreation
- * Department of Land Utilization
- * Department of Public Works
- * Department of Human Resources
- Department of Housing and Community Development
- *# Fire Department
- *# Police Department

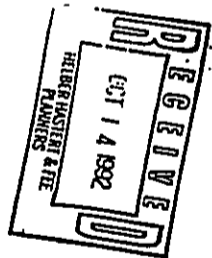
Other

- # Oceanic Cablevision
- * Hawaiian Electric Company, Inc.
- American Lung Association
- The Gas Company
- * GTE Hawaiian Telephone Company, Inc.
- Hawaii's Thousand Friends
- # Wahiawa Neighborhood Board
- # Whitmore Seniors Club



DEPARTMENT OF THE NAVY
NAVAL COMPUTER AND TELECOMMUNICATIONS
AREA MASTER STATION EASTERN PACIFIC
WAHIAWA, HAWAII 96716-3069

11011
Ser N4/ 3987
09 OCT 1992



Helber Hastert & Fee, Planners
Attn: Gail Uyetake
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Subj: DRAFT DEVELOPMENT CONCEPT PLAN FOR WAHIAWA
LANDS MASTER PLAN

Gentlemen:

Your letter of August 25, 1992 requested comments on a proposed development plan for the Galbraith Trust Wahiawa Lands for use in the formulation of the environmental assessment. As briefly mentioned in your Wahiawa Lands Community Advisory Committee Newsletter of April 1992, our primary concern with this development is the possible associated increase in radio frequency and electromagnetic interference with our various communications antenna receiving systems.

The Wahiawa component of this station serves as both our administrative headquarters and our communications antenna receiver site. Planning guidelines have been established for land development around receiving antennas intended to prevent interference with their receiving capabilities. Our Circularly Disposed Antenna Array (CDAA) requires buffer zones to ensure adequate protection from local man-made radio noise sources. Although not enforceable on private land, electromagnetic interference protection criteria listed in a Department of Defense Directive C-3222.5 (dated April 22, 1987) specify housing developments of a density over 5 units per acre should be 2 miles from a CDAA. The criteria also specify light industrial land uses should be at least 4 miles from a CDAA. Enclosure (1) summarizes these and other criteria from the directive, and lists other interference concerns.

As shown in your April 1992 newsletter and your letter of August 25th, a portion of the proposed development which currently includes residential areas, commercial areas, and light industry, falls within two miles of our Circularly Disposed Antenna Array (CDAA). Based on our Department of Defense criteria, we have serious reservations regarding the planned residential densities of 6 to 15 units/acre, and the proposed light industrial facilities. For this reason, we request the Navy be allowed to

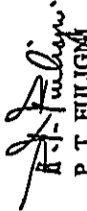
Subj: DRAFT DEVELOPMENT CONCEPT PLAN FOR WAHIAWA
LANDS MASTER PLAN

review the environmental impact statement, development plans and designs to determine whether interference sources are being introduced, and what mitigation measures could be taken.

Thank-you for the opportunity to review and comment on your development plan. Please address future correspondence on this matter to the following:

Commander
Naval Base Pearl Harbor
(Code N42)
Box 110
Pearl Harbor, HI 96860-5020

Sincerely,


P. T. FULIGM
Lieutenant, CEC, U.S. Navy
Public Works Officer
By direction of
the Commanding Officer

Encl:
(1) Selected Minimum Isolation Distances for Communications Sites

SELECTED MINIMUM ISOLATION DISTANCES
FOR COMMUNICATIONS SITES

Land Use or Development	Distance from Receiver Site
Transmitter stations.	5 miles
Main highways (over 200 vehicles per hour).	1 mile
Secondary roads (under 200 vehicles per hour).	1/2 mile

Overhead high tension power lines:	From nearest antenna:
-Under 100 KV	1,000 feet
-Over 100 KV	2 miles

Residential areas:
Low density (5 units or less/acre)
High density (Over 5 units/acre)

1 mile
2 miles

Industrialized areas:

-Light industry
-Heavy industry

4 miles
6 miles

Electric discharge vapor lamps.

1 mile.

Other interference concerns:

1. Use of "HAM" radios and other HF transmitters including citizen band (CB) base stations.

2. Use of electric lawn mowers, RF stabilized welders, RF heaters or ovens, or plastic extrusion or molding machines.

3. Any lighting (e.g. street lighting) must be low pressure sodium, incandescent type, with RF suppression.

SELECTED MINIMUM ISOLATION DISTANCES
FOR COMMUNICATIONS SITES

4. Construction which protrudes into a three degree vertical clearance zone from the base of the Circularly Disposed Antenna Array.
5. The use of conductive construction should be limited, as the use of large amounts of metal and concrete may alter antenna patterns.
6. Wire fences within 650 feet and large parking areas within 985 feet of the Circularly Disposed Antenna Array are potential sources of interference.

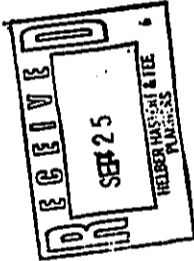
Enclosure (1)



DEPARTMENT OF THE ARMY
 U. S. ARMY ENGINEER DISTRICT, HONOLULU
 FT. SHAFTER, HAWAII 96858-5440
 September 23, 1992

REPLY TO
 ATTENTION OF:

Planning Division



Helber Hastett & Feg, Planners
 Attention: Ms. Gail Uvetake
 733 Bishop Street, Suite 2590
 Honolulu, Hawaii 96813

Dear Sir/Madam:

Thank you for the opportunity to review and comment on the draft development plan for an Environmental Assessment for an amendment to the Koolau Poko Development Plan on behalf of the Galbraith Trust. The following comments are provided pursuant to Corps of Engineers authorities to disseminate flood hazard information under the Flood Control Act of 1960 and to issue Department of the Army (DA) permits under the Clean Water Act; the Rivers and Harbors Act of 1899; and the Marine Protection, Research and Sanctuaries Act.

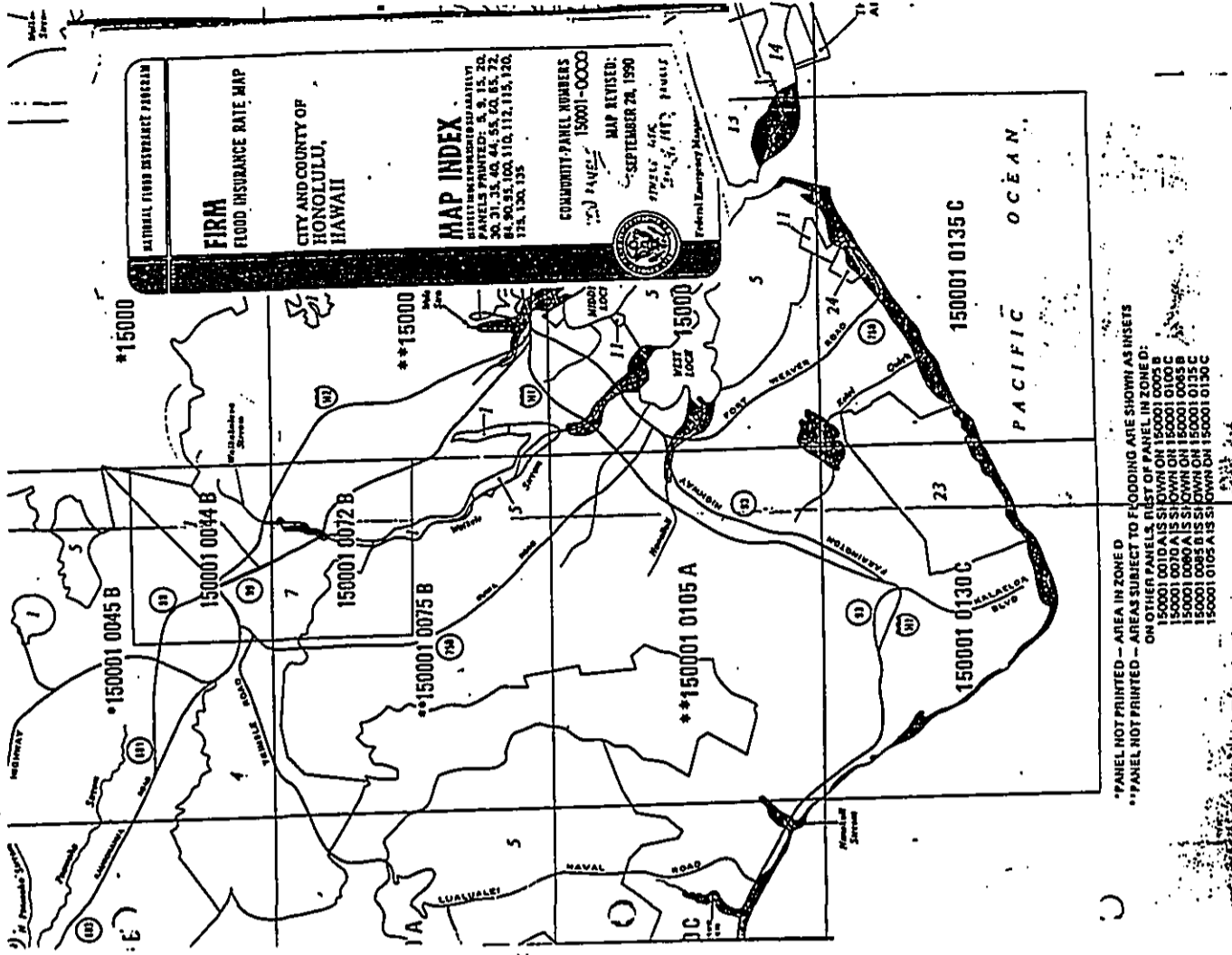
a. Any work in waters of the United States will require a DA permit. The applicant should consult with Operations Division during project design.

b. According to the enclosed Federal Emergency Management Agency's Flood Insurance Rate Map Panel 150001 0044 B and 150001 0000, both dated September 28, 1990, the proposed project site is located in Zone D (areas in which flood hazards are undetermined).

Sincerely,

Kisuk Cheung
 Kisuk Cheung, P.E.
 Director of Engineering

Enclosure



NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

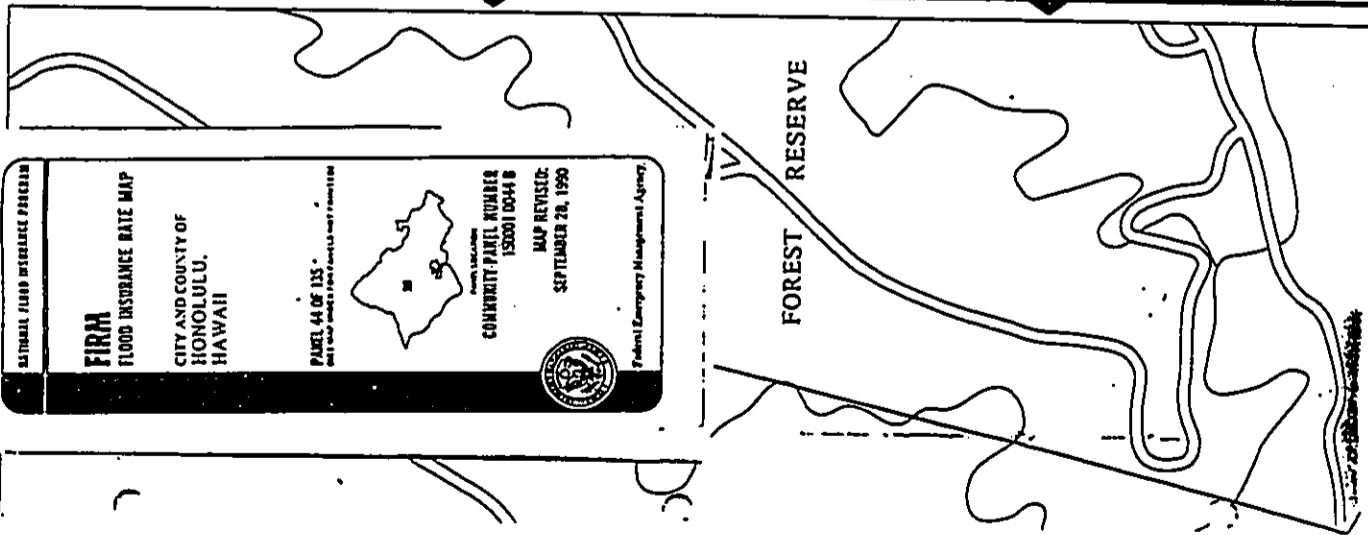
CITY AND COUNTY OF HONOLULU, HAWAII

PANEL 44 OF 135

COMMUNITY PANEL NUMBER 15001 0044 B

MAP REVISION: SEPTEMBER 28, 1990

Federal Emergency Management Agency



- ### LEGEND
- SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD**
- ZONE A** No base flood elevations determined.
 - ZONE AE** Base flood elevations determined.
 - ZONE AH** Flood depths of 1 to 3 feet (study area of ponds); base flood elevations determined.
 - ZONE AO** Flood depths of 1 to 3 feet (study area of low on steeply sloping areas); base flood elevations determined. For areas of small islands, which are determined by, whichever is determined.
 - ZONE A99** To be protected from 100-year flood by Federal or State action; areas under construction; base flood elevations determined.
 - ZONE V** Coastal flood with velocity hazard (wave action); base flood elevations determined.
 - ZONE VE** Coastal flood with velocity hazard (wave action); base flood elevations determined.
- FLOODWAY AREAS IN ZONE AE**
- OTHER FLOOD AREAS**
- ZONE X** Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.
 - OTHER AREAS**
 - ZONE X** Areas determined to be outside 500-year flood plain.
 - ZONE D** Areas in which flood hazards are undetermined.
- Boundary**
- Floodway Boundary
 - Zone D Boundary
 - Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Flood Hazard Elevations Within Special Flood Hazard Zones.
- Blue Flood Elevation Line; Elevation in Feet***
- Cross Section Line
 - Blue Flood Elevation in Feet Where Uniform Within Zone*
 - Elevation Reference Mark
- *Referenced to the National Geodetic Vertical Datum of 1929

NOTES

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, and it does not constitute an insurance contract. For more information, refer to the National Flood Insurance Program Manual, 44 CFR, Part 67.

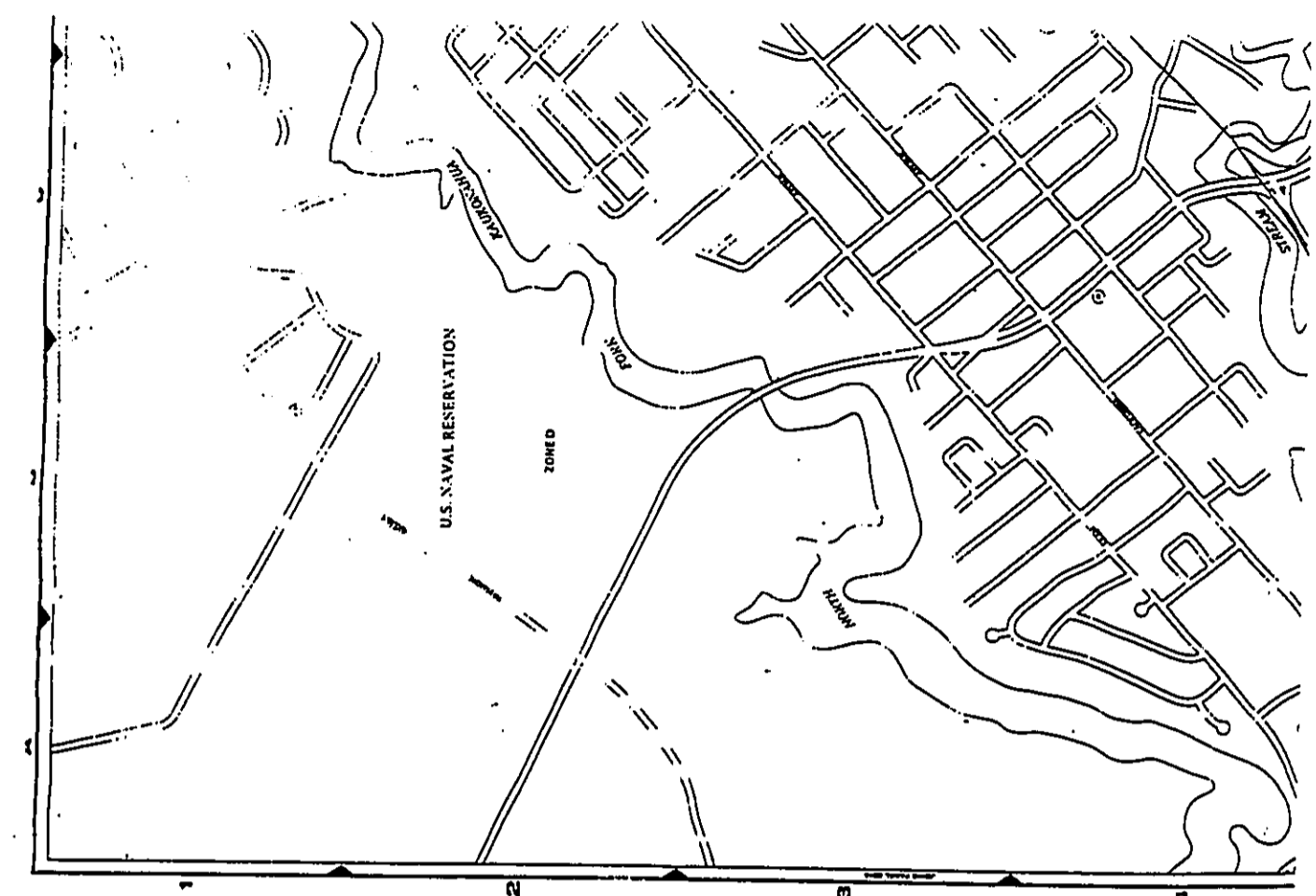
Areas of special flood hazard (100-year flood) include Zones A, AH, AO, A99, V, VE, and VE.

Areas not in Special Flood Hazard Areas may be protected by flood control structures.

Boundaries of the Floodways were computed at cross sections and interpolated between cross sections. The Floodways were based on hydrologic considerations and are subject to requirements of the Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Floodway widths are provided in the Flood Insurance Study Report.

Elevation reference marks are described in the Flood Insurance Study Report.



UNITED STATES
DEPARTMENT OF
AGRICULTURE

SOIL
CONSERVATION
SERVICE

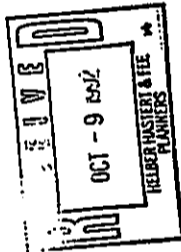
P. O. BOX 50004
HONOLULU, HAWAII
96850

2

Thank you for the opportunity to comment on this proposed project. We would appreciate reviewing the Draft Environmental Impact Statement if one is required.

Helber Mastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Attention: Call Uyetake



October 6, 1992

Sincerely,

WARREN H. LEE
State Conservationist

Dear Ms. Uyetake:

Subject: Application for Development Plan Amendment and Environmental Assessment for Galbraith Trust Wahiava Lands

We have reviewed the above application and like to offer the following comments:

The Soil Conservation Service is concerned about the preservation of prime agricultural lands and the prevention of nonpoint source pollution entering Wahiava Reservoir and Kaukonahua Stream.

The proposed development would entail the loss of approximately 800 acres of prime agricultural lands. The Soil Conservation Service opposes any loss of prime agricultural lands to non-agricultural uses. We believe that it is not in the best interest of the State of Hawaii to lose very important agricultural lands.

The Soil Conservation Service programs play an active role in the control of nonpoint source pollution, with our primary focus on agricultural sources. While the proposed development is not agricultural in nature, it is of interest to us because it is located within our USDA Waialua-Kaiaika Bay Hydrologic Unit project area. The USDA funded project is designed to reduce the agricultural nonpoint source pollution that is currently occurring within the Waialua and Kaiaika Bay watershed areas. The project, one of 14 Hawaii candidates, was selected in a process that awarded only 37 nationwide in 1991. The project goal to improve the surface water quality of both bays and to preserve the ground water quality of the aquifer was one of the main reasons it was selected. The USDA project coordinators are working with other federal, State of Hawaii, and county agencies on programs to first assess the sources of nonpoint source pollution and then to provide technical assistance to control it. Needless to say, we are concerned that the proposed development should not work against our project and contribute nonpoint or point source pollution to Wahiava Reservoir, Kaukonahua Stream, and Kaiaika Bay.

In order to prevent pollution of Wahiava Reservoir, Kaukonahua Stream, and Kaiaika Bay, we would like to suggest that all of the runoff produced by the development be treated in settling ponds to remove sediment and chemical pollutants.



Western-Pacific Region
 P. O. Box 50109
 Honolulu, Hawaii 96850-4983

September 1, 1992

Helber Hastert & Fee, Planners
 733 Bishop Street, Suite 2590
 Honolulu, Hawaii 96813
 Attn: Ms. Gail Uyetake

Dear Ms. Uyetake:

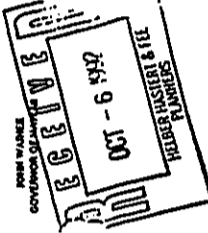
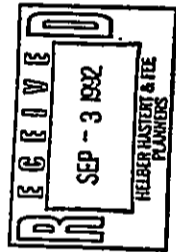
Your letter of August 25, 1992, requested our agency's comments on your application for Development Plan Amendment and Environmental Assessment for the Galbraith Trust Wahiawa Lands, Wahiawa District, Oahu, Hawaii, (THK # (1)-7-1-001; 005; 006; 007; 008; 025; 026; 031; 032; por. 011, por. 029, and por. 030).

The Federal Aviation Administration has no comments regarding the subject project.

We appreciate this opportunity to review your plans. Please contact me at 541-1236, if there are any questions.

Sincerely,

Darice B. Hoang
 Darice B. Hoang
 Realty Contracting Officer, AHNL-56



STATE OF HAWAII
 DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
 33 SOUTH KING STREET, 4TH FLOOR
 HONOLULU, HAWAII 96813

September 29, 1992

Ms. Gail Uyetake
 Helber, Hastert & Fee, Planners
 733 Bishop Street, Suite 2590
 Honolulu, HI 96813

Dear Ms. Uyetake:

SUBJECT: Application for Development Plan Amendment and Environmental Assessment, Galbraith Trust Wahiawa Lands Wahiawa, O'ahu
 THK: 7-1-1: 5-8, 25, 26, 31, 32, por. 11, por. 29, por. 30

Thank you for the opportunity to review the draft concept development plan for these lands. These lands are adjacent to State site 50-80-04-218, Kukaniloko, which was placed on the National Register of Historic Places in 1973 and has been actively preserved for over 60 years. The State of Hawaii has recently acquired title to about 5 acres of land at this site and long-term preservation and interpretive display will fall to the Department of Land and Natural Resources, Division of State Parks. We note that your master plan includes an 11 acre Kukaniloko Park, and we interpret this to mean that an additional six acres of Galbraith Trust lands will be used as a buffer between development and the 5 acre parcel managed by State Parks. We further note that development plans for the lands adjacent to these 11 acres call for a golf course and, across the road, a community park and single family residences. We believe that low-rise, low-density development is appropriate for the area surrounding this important historic site, and that there is an opportunity to make considerable improvements to the present preservation and interpretive display of the site.

We look forward to reviewing more detailed plans as these are developed. If you have any questions, please call Tom Dye at 587-0014.

Sincerely,

Tom Dye
 TOM HIBBARD, Administrator
 State Historic Preservation Division

TD:amk

WILLIAM W. PATTY, CHAIRPERSON
 BOARD OF LAND AND NATURAL RESOURCES
 OFFICES
 JOHN P. RYDOLA, JR.
 DONALD L. HANAUER
 AQUACULTURE DEVELOPMENT PROGRAM
 AQUATIC RESOURCES AND CONSERVATION AND DIVISIONS
 CONSERVATION AND DIVISIONS
 RECREATION AND TOURISM
 FORESTRY AND WILDLIFE
 HISTORIC PRESERVATION DIVISION
 LAND MANAGEMENT
 STATE PARKS AND DEVELOPMENT
 LOG NO: 6212
 DOC NO: 0991C

JOHN WADSWORTH
Governor
MARTI HAHNELAHOI
Director
BARBARA KIM SANTON
Deputy Director
RICK EGOTO
Deputy Director
LUCIEN YOSHIKAWA
Deputy Director

DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM

CHEROKEE DRIVE, 330 MERCHANT ST., RM. 110, HONOLULU, HAWAII 96813 PHONE: (808) 587-3400 FAX: (808) 587-3470

92:1147e

DESIGN GUIDELINES - ADDENDUM NO. 1

ENERGY EFFICIENCY DESIGN GUIDELINES

To minimize the life cycle energy use and life cycle cost of the project while maintaining the project development objectives of cost effectiveness, health, safety, security and aesthetics, the following guidelines should be considered and, where applicable, incorporated into the project plans.

- 1.0 Site Planning and Landscaping
- 1.1 Orient streets to provide an east/west orientation for the long dimension of the houses to minimize heat gains in the morning and afternoon.
- 1.2 Incorporate pedestrian walkways and bikeways to encourage walking and bicycling between homes, school, parks and commercial areas.
- 1.3 Select and place landscape materials on the site to provide shading to minimize heat gains in the morning and afternoon.
- 1.4 Minimize exterior paved surfaces that are not shaded by trees, awnings, trellises, roofing or bouse.
- 1.5 Provide for enclosed yard areas where clotheslines could be utilized.
- 1.6 Incorporate drip irrigation where appropriate, and automate irrigation system to conserve water.
- 1.7 Select drought-tolerant landscape materials where appropriate to reduce the need for water and energy consumption associated with landscape maintenance.
- 2.0 Building Design
- 2.1 Use operable windows to allow cross ventilation in every room, and orient openings toward prevailing winds.
- 2.2 Utilize eaves (minimum 30"), louvers, trellises, or shade screen to shade windows, especially on west, south and east sides.
- 2.3 Ventilate attic with devices such as louvers at or near the roof ridge to reduce attic heat buildup and resultant heat transfer to living areas.
- 2.4 Install a radiant barrier (reflective foil-faced kraft paper material or similar product) in the attic to reduce heat gain into the house attic. Typically installed at the underside of the

September 28, 1992

Ms. Gail Uyetake
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Application for Development Plan Amendment and
Environmental Assessment for Galbraith Trust Wahiana Lands

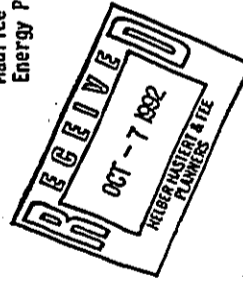
In response to your August 25, 1992, letter, we would like to advise that should it be determined that an EIS is required for your project, it should comply with the requirements found in State laws for evaluating any energy impacts that the project will have. The mandate for such an evaluation is found in Chapter 344, HRS ("State Environmental Policy") and Chapter 226, HRS ("Hawaii State Planning Act"). In particular Chapter 226-18 (a), (2) and (c), (3); 226-52 (a) and (b), (2), (D); and 226-103, (f), (1) and (2) should be considered.

As there may be substantial opportunities for energy efficiency, we are enclosing a copy of our "Energy Efficiency Design Guidelines" and "Strategies for Energy Efficient Architecture" for your reference.

Sincerely,

Maurice H. Kava

Maurice H. Kava
Energy Program Administrator



HRK/EU:dktk
Enclosure

roof rafters or the top side of the ceiling joists per manufacturer's recommendations.

- 2.5 Use light colored finishes on roof and wall to reflect sunlight.
- 3.0 Mechanical Equipment and Systems
- 3.1 Consider use of heat pump waterheaters.
- 3.2 Consider use of solar waterheater or provide for future installation by pre-plumbing and running power and control wiring.
- 3.3 Utilize the most efficient refrigerators, clothes dryers, and dishwashers.
- 3.4 Install ceiling fans or provide for future installation.
- 3.5 Use time switches to cut off electricity when not needed to high-usage applications or equipment such as electric waterheater.
- 3.6 Install fluorescent lights with high efficiency ballasts.
- 3.7 Use low water consumption waterclosets.
- 3.8 Install flow restrictors on showers and other water uses which can have high flow rates.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
LAND USE COMMISSION
Room 1601 Old Federal Building
335 North King Street
Honolulu, Hawaii 96813
Telephone: 587-3321

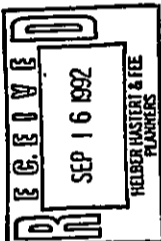
ESTHER UEDA
EXECUTIVE OFFICER

Ms. Gail Uyetake
September 15, 1992
Page 2

- 4) Based on your description of the subject application, it appears that the proposed development will require a State Land Use Boundary Amendment to reclassify the lands from the Agricultural District to the Urban District.

September 15, 1992

Ms. Gail Uyetake
Helbert Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813



We have no further comments to offer at this time.

Thank you for the opportunity to provide comments on this matter. If you should have any questions, please feel free to contact me or Leo Asuncion of my staff at 587-3822.

Sincerely,

ESTHER UEDA
Executive Officer

EU:th

CC: DBED

Dear Ms. Uyetake:

Subject: Application for Development Plan Amendment and Environmental Assessment For Galbraith Trust Mahiava Lands; TMK 7-1-01: 01; 05; 06; 07; 08; 25; 26; 31; 32; por. 11; por. 29; and por 30.

The Department of Business, Economic Development & Tourism has referred the draft concept development plan and land use summary for the subject plan amendment and environmental assessment transmitted by your letter dated August 25, 1992 to our office for response.

We have reviewed the draft concept development plan and land use summary and have the following comments:

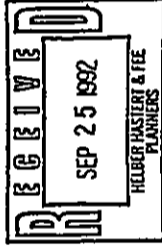
- 1) We note that in your letter, the plat number in the TMK identifications for the parcels involved are missing. The tax map keys should read as listed above.
- 2) We confirm that the parcels involved for the proposed Mahiava Lands Master Plan are within the State Land Use Agricultural District.
- 3) We suggest that the proposed development plan be superimposed upon a reproduction of the official State Land Use District Map. We also suggest that the proposed development plan be drawn upon the tax map of the area. Both of these figures should be included in the environmental assessment.

JOHN WASHBEE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF HUMAN SERVICES
Planning Office
P.O. Box 339
Honolulu, Hawaii 96809

WINONA E. RUBIN
DIRECTOR
LYNN N. FALLON
DEPUTY DIRECTOR
LESLIE S. MATSUBARA
DEPUTY DIRECTOR



September 16, 1992

Ms. Gail Uyetake
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Early Assessment, Application for Development Plan
Amendment and Environmental Assessment, Galbraith Trust
Wahiawa Lands, Wahiawa District, Oahu, Hawaii, TMK
7-1-001; 005-008; 025; 026; 031; 032; por 001, por 029 & 030

Thank you for the opportunity to begin our review of this project at this time. We have the following comments to offer.

The Draft EIS should discuss population growth, income and housing. We are particularly concerned about the estimated population increase, age distribution, household income, short and long-term employment opportunities, number of affordable housing units (fee, leasehold, & rentals), and impacts upon price of existing housing units (fee, leasehold & rentals).

If there are any questions regarding this matter, please contact our Planning Office, at 586-5114.

Sincerely,

Winona E. Rubin
Director

AN EQUAL OPPORTUNITY AGENCY

JOHN WARREN
Governor

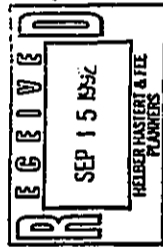


State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 So. King Street
Honolulu, Hawaii 96814-2512

September 4, 1992

YUKIO KITAGAWA
Chairperson, Board of Agriculture
ELIMA A. PEANANA
Deputy to the Chairperson

FAX: 973-9813
Mailing Address:
P. O. Box 22159
Honolulu, Hawaii 96822-2159



Ms. Gail Uyetake
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, HI 96813

Dear Ms. Uyetake:

Subject: Draft Concept Development Plan Amendment and Land Use Summary for
Galbraith Trust Wahiawa Lands, Wahiawa District, Oahu, Hawaii
TMK: 7-1-1: 5; 6; 7; 8; 25; 26; 31; Portion of 11; Portion of 29; and
Portion of 30; Wahiawa, Oahu
Area: Approximately 800 acres

The Department of Agriculture has reviewed the subject proposal and offers the following comments. According to the proposal, the applicant will seek to amend the designation of the subject parcels in the Koolauoko Development Plan (DP) from Agriculture to Urban type uses, such as Residential, Commercial, and other (including golf course and parks). This will require the preparation of an Environmental Assessment.

The subject area is located northwest of Wahiawa and between the Wahiawa Reservoir and Poamoho Gulch. The proposal would result in the urbanization of approximately 800 acres in pineapple cultivation by Del Monte Fresh Produce (Hawaii), Oahu Plantation, Kunia.

Issues Which Should Be Addressed

Our Department would like to see the following issues addressed in the Environmental Assessment:

- The relationship of this project to any other planned developments in the Koolauoko Development Plan area;
- An agricultural impact analysis which includes the assessment of the proposed project's impact on Del Monte pineapple operations and on the agricultural policies of the State of Hawaii. The analysis needs to include the full impact on the economic viability of the Del Monte operations resulting from the cessation of pineapple production. This would include the loss in tons of pineapple per acre, lost revenues, cost of replacement field preparation (if any), determination of the significance of the impact on Del Monte pineapple operations resulting from the subject project's withdrawal of pineapple-cultivated lands in combination with any other development proposals in the area, and any other indicators of adverse impact;



Gail Uyetake
September 4, 1992
Page -2-

- The potential of establishing viable alternative agricultural uses on the project site,
- The broader economic resource impact on the State from the irrevocable loss of "unique" agricultural lands;
- Conformity to the State Agriculture Functional Plan, 1991, and its objectives and policies, particularly, Implementing Action H(2)(c); and
- The relationship to the following Hawaii State Plan policies and priority guidelines:
226-7(a)(6) "Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs."
226-103(c)(1) "Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries."
226-103(d)(1) "Identify, conserve and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural districts."
226-104(b)(2) "Make available marginal or non-essential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district."

Thank you for the opportunity to comment. We will provide further comment upon our receipt and review of the Environmental Assessment.

Sincerely,

Yukio Kitagawa
YUKIO KITAGAWA
Chairperson, Board of Agriculture

c: Department of General Planning
Office of Environmental Quality Control
Office of State Planning



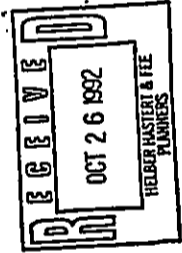
STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3218
HONOLULU, HAWAII 96811

JOHN C. LEWAL, D.D.
DIRECTOR OF HEALTH

IN REPLY, PLEASE REFER TO:

October 16, 1992

92-325/epo



Ms. Gail Uyetake
Project Planner
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Application for Development Plan Amendment and
Environmental Assessment (EA)
Gailbraith Trust Wahiawa Lands
Wahiawa District, Oahu, Hawaii

Thank you for allowing us to review and comment on the subject
project. We have the following comments to offer:
Drinking Water

1. The site is above the Underground Injection Control (UIC) line, which means that it is located over an underground source of drinking water.
2. According to our records, there are no water wells within 1/4 mile of the project's boundaries. The construction of injection wells is not allowed within 1/4 mile of a drinking water well. The southern areas of the project site are bounded by the Wahiawa Reservoir (Kaukonahua Stream). A Board of Water Supply observation well is just outside the 1/4 mile radius of the project's southern boundary. Other wells are situated outside the southern and eastern fringes of the proposed project site.
3. If any injection wells (including sumps, pits, seepage pits, or drywells) are for the disposal of fluids, a UIC permit application must be filed with the Safe Drinking Water Branch.
4. Of particular concern to the Department of Health (DOH) is the nature of the planned industrial activities. The typical activities associated with industrial areas are such that subsurface and groundwater contamination, resulting

Ms. Gail Uyetake
October 16, 1992
Page 2

92-325

from daily operations, is likely. To minimize the cause of this contamination, we request that the developer confine all maintenance and manufacturing activities involving the use of industrial liquids to appropriately-designed concrete floored areas. There should be no such industrial activity conducted over bare ground. By confining these activities to concrete floored areas, all spills can be contained and recovered, and intentional discharges will be discouraged.

The DOH strongly recommends the following three conditions to serve as a requirement for any plan amendment or to be included into a covenant running with the use of land, similar to an industrial park covenant.

- a. All cleaning, repairs and maintenance of equipment involving the use of industrial liquids, such as gasoline, diesel, solvent, motor oil, hydraulic oil, gear oil, brake fluid, acidic or caustic liquids, anti-freeze, detergents, degreasers, etc., shall be conducted on a concrete floor, whether roofed or unroofed. The concrete floor shall be constructed so as to be able to contain any drips or spills and to provide for the recovery of any spilled liquid. Water drainage from these concrete floors, if necessary, shall pass through a separator sump before being discharged.
 - b. All employees shall be informed to immediately collect and contain any industrial liquid spills on the concrete floor and should be informed against discharging or spilling any industrial liquids. Employees shall be aware to prevent any industrial liquid spills onto the bare ground.
 - c. Barrels for the temporary storage of used oil or other industrial liquids shall be kept on a concrete surface. The surface shall be bermed to prevent the loss of liquid in the event of spills or leaks. The barrels shall be sealed and kept under shelter from the rain. (The Department of Labor and Industrial Relations, Occupational Safety and Health regulations, sections titled, "Housekeeping Standards" and "Storage of Flammable or Combustible Liquids," shall be followed along with the local fire code).
5. The source of potable water for the development's use should be identified. For the residential portions of the development project, low flow water fixtures should be installed.

Ms. Gail Uyetake
October 16, 1992
Page 3

92-325

6. The Department recommends that the twelve (12) conditions applicable to all new golf course developments be adopted. Enclosed is a copy of these conditions.

If you should have any questions on this matter, please contact Mr. Kevin Wood of the Safe Drinking Water Branch at 586-4258.

Wastewater

The subject project is located in the "No Pass" Zone, above the UIC Line and in the critical wastewater disposal area as determined by the Oahu Wastewater Advisory Committee. Consequently, no new cesspools will be allowed in the subject area.

The methods of handling and disposal of wastewater that will be generated from the project should be identified. The project will have to be connected to a municipal sewer system or a private sewage treatment plant utilizing total effluent reuse.

All wastewater plans must conform to applicable provisions of the DOH Administrative Rules, Chapter 11-62, "Wastewater Systems."

If you should have any questions on this matter, please contact Ms. Lori Kajiwara of the Wastewater Branch at 586-4290.

Water Pollution

For any construction activity that may result in the discharge of storm water to waters of the State, and involves the clearing, grading and excavation of five (5) acres or more of total planned development, a National Pollutant Discharge Elimination System (NPDES) storm water permit is required from the DOH. The permit application should be submitted to the Director at least 90 days prior to the commencement of construction. An NPDES permit is required for any discharge to waters of the State including: construction runoff, dewatering activities, hydrotesting water from new water lines or storage tanks, groundwater remediations sites, and cooling water discharges from air conditioning units.

If you should have any questions on this matter, please contact Mr. Denis Lau of the Clean Water Branch at 586-4309.

Solid Waste

A project of this size which includes residential and commercial use areas will have a significant impact upon waste generation. The State of Hawaii has established mandated waste diversion and recycling rates of twenty-five percent (25%) by 1995 and by fifty percent (50%) by the year 2000. The City and County of

Ms. Gail Uyetake
October 16, 1992
Page 4

92-325

Honolulu's waste diversion and recycling goals are more stringent than those set by the State. This office strongly recommends that the developer be required to indicate how construction and use in the development will meet the State and County goals for waste reduction before a development plan amendment is granted.

Appropriate measures would include the dedication of land for a community recycling drop-off area (possibly within the commercial area) and designs which include spatial and functional collection areas within multi-family residences for diversion of recyclables from the waste stream.

Guideline #10 of the enclosed guidelines for golf course development is particularly applicable to this project.

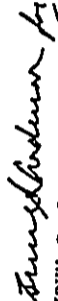
If you should have any questions on this matter, please contact Ms. Carrie McCabe of the Office of Solid Waste Management at 586-4227.

Noise

We have some reservations regarding the proposed project due to the integration of various uses, such as commercial/industrial. Noise associated with commercial activities, such as delivery of materials, refuse collection and vehicular traffic, as well as noise from air conditioners, exhaust fans and other types of equipment associated with commercial facilities, may result in adverse noise impacts to residents. Mitigating measures should be designed into the project.

If you should have any questions on this matter, please contact Mr. Jerry Haruno of the Noise and Radiation Branch at 586-4700.

Very truly yours,


JOHN C. LEWIN, M.D.
Director of Health

Enc.

c: Safe Drinking Water Branch
Clean Water Branch
Wastewater Branch
Office of Solid Waste Management
Noise and Radiation Branch

3. If the data from the monitoring system indicate increased levels of a contaminate that poses, or may pose, a threat to public health and the environment, the State Department of Health shall require the owner to take immediate action to stop the source of contamination. Subsequently, the owner shall mitigate any adverse effects caused by the contamination.

4. Owner/developer shall provide sewage disposal for the clubhouse and other facilities by connecting to the public sewer system or by means of a treatment individual wastewater system approved by the Department of Health in conformance with Administrative Rules, Title 11, Chapter 62, Wastewater Treatment Systems. The use of wastewater for irrigation will be generally encouraged, with appropriate controls (see Condition 5).

5. If a wastewater treatment works with effluent reuse becomes the choice of wastewater disposal, then the owner/developer, and all subsequent owners, shall develop and adhere to a Wastewater Reuse Plan which shall incorporate the provisions of the Department of Health's Guidelines for the Use of Reclaimed Water which includes:

- a. An Irrigation Plan encompassing buffer distances, pipe and appurtenance placement, and labeling.
- b. An Engineering Report encompassing treatment options and treatment levels.
- c. Hydro-geologic and hydrologic surveys to determine application rates, sizing and storage needs.
- d. A monitoring plan.
- e. A management plan.
- f. Public and employee education plans.

6. Underground storage tanks (USTs) used to store petroleum products for fueling golf carts, maintenance vehicles, and emergency power generators that pose potential risk to groundwater shall be discouraged. Use of electric golf carts and above-ground storage tanks for emergency power generators shall be encouraged.

Should the owner/developer/operator plan to install USTs that contain petroleum or other regulated substances, the owner/developer/operator must comply with the federal UST technical and financial responsibility requirements set forth in Title 40 of the Code of Federal Regulations Part 280. These federal rules require, among other things, owners and operators of USTs to meet specific requirements in release detection and response, and subsequent corrective action. Also, the owner/developer/operator must comply with all State UST rules and regulations pursuant to the Hawaii Revised Statutes, Chapter 342-L, Underground Storage Tanks.



STATE OF HAWAII DEPARTMENT OF HEALTH

January, 1992 (Version 4)

TWELVE (12) CONDITIONS APPLICABLE TO ALL NEW GOLF COURSE DEVELOPMENT

The following conditions are recommended for all new golf course development in Hawaii to assure that environmental quality is preserved and enhanced as it relates to human health and the protection of sensitive ecosystems. Additional conditions may be imposed based on site-specific considerations.

- 1. Baseline groundwater/vadose zone and/or, if appropriate, coastal water quality shall be established. Once the sampling plan has been determined and approved by the State Department of Health, the owner/developer shall establish the baseline groundwater/vadose zone water quality, and, if appropriate, nearshore water quality, and report the findings to the State Department of Health. Analyses shall be done by a laboratory approved by the Department of Health.
- 2. The owner/developer and all subsequent owners shall establish a groundwater monitoring plan and system which shall be presented to the State Department of Health for its approval. The groundwater monitoring plan and system shall minimally describe the following components:
 - a. A monitoring system tailored to fit site conditions and circumstances. The system shall include, and not be limited to, the use of monitoring wells, lysimeters, and vadose zone monitoring technologies. If monitoring wells are used, the monitoring wells shall generally extend 10 to 15 feet below the water table.
 - b. A routine groundwater monitoring schedule of at least once every six (6) months, or more frequently, if required by the State Department of Health in the event that the monitoring data indicates a need for more frequent monitoring.
 - c. A list of compounds which shall be tested for as agreed to by the State Department of Health. This list shall include, but not be limited to the following: total dissolved solids; chlorides; pH; nitrogen; phosphorus; and other compounds associated with fertilizers, biocides, or effluent irrigation.

7. Buildings designed to house the fertilizer and biocides shall be bermed to a height sufficient to contain a catastrophic leak of all fluid containers. It is also recommended that the floor of this room be made waterproof so that all leaks can be contained within the structure for cleanup.
8. A golf course maintenance plan and program will be established based on "Best Management Practices (BMP)" in regards to utilization of fertilizers and biocides as well as the irrigation schedule. BMP's will be reviewed by the State Department of Health prior to implementation.
9. Every effort shall be made to minimize the amount of noise from golf course maintenance activities. Essential maintenance activities (e.g., mowing of greens and fairways) shall be conducted at times that do not disturb nearby residents.
10. Solid waste shall be managed in a manner that does not create a nuisance. Whenever possible, composting of green wastes for subsequent use as a soil conditioner or mulching material is encouraged. The composting and reuse should be confined to the golf course property to eliminate the necessity for offsite transport of the raw or processed material. In addition, during construction, the developer should utilize locally-produced compost and soil amendments whenever available.
11. Fugitive dust shall be controlled during construction in accordance with Hawaii Administrative Rules, Title 11, Chapter 60, Air Pollution Control. Pesticides and other agricultural chemicals should be applied in a manner that precludes the offsite drift of spray material. The State Department of Agriculture should be consulted in this regard.
12. To avoid soil runoff during construction, the developer should consult with the U.S. Department of Agriculture, Soil Conservation Service to assure that best management practices are utilized. If the total project area is five (5) acres or more and the development activities include clearing, grading, and excavation, a National Pollutant Discharge Elimination System (NPDES) stormwater permit application shall be submitted to the Department of Health in accordance with the Federal Clean Water Act requirements.

If there are any questions regarding the twelve (12) conditions mentioned here, please contact the Environmental Planning Office at 586-4337. We appreciate your cooperation in preserving and protecting environmental quality in Hawaii.



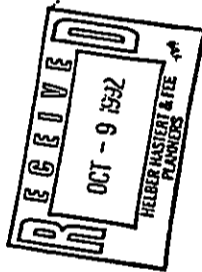
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P.O. BOX 151
HONOLULU, HAWAII 96813

REF: OCEA: WKKI

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
SERVICES
JOHN P. HOFFER, JR.
DONALD HAWAII
AGRICULTURE DEVELOPMENT
NATURAL RESOURCES
CIVIL ENGINEERING AND SURVEYING
CONSTRUCTION AND PROJECTS
Landscape Architecture
COMPUTERS
PLANNING AND DESIGN
LAND MANAGEMENT
LAND ACQUISITION PROGRAM
PUBLIC AFFAIRS
MULTI-PHASE LAND DEVELOPMENT

FILE NO.: 93-149
DOC. NO.: 1532

OCT 8 1992



Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2550
Honolulu, Hawaii 96813

ATTN: Gail Uyetake

Dear Ms. Uyetake:

SUBJECT: Application for Development Plan Amendment and Environmental Assessment, Galbraith Trust Wahiawa Lands, Wahiawa, Oahu

Thank you for giving our Department the opportunity to comment on this matter. We have reviewed the submitted material, and have the following comments:

The application for a development plan amendment proposes to change the development plan designation for approximately 800 acres of land adjacent to Wahiawa from agriculture to residential and commercial. The subject acreage surrounds Kukaniloko Birthstones State Park. The park consists of 5 acres (the birthstone with a buffer) and an access road from Kamehameha Highway. The State obtained possession in July, 1991 and planning funds were recently released to initiate the research and planning for this site.

The present buffer around the site area ranges from approximately 100 feet on the north and south sides to approximately 200 feet on the east and west sides. When the State first planned for the acquisition of the Kukaniloko site, a total of 15 acres was considered. Recognizing that the proposed amendment would permit housing, commercial structures, and a golf course in proximity to the birthstones, we are concerned that an adequate buffer be established for the site that will maintain the cultural integrity, the historical setting, and insure long-term preservation of the site. We do not believe that the current 5 acre area is an adequate buffer based on the potential scale of modern development and the potential for visual and sound intrusions on the cultural site.

Ms. Uyetake

-2-

File No.: 93-149

In preliminary discussions with planners for the Galbraith Trust, we have suggested the need for a larger buffer and a setback for any structural developments. You indicated on your Draft Conceptual Development Plan that an additional 6 acres will be added around the site (total of 11 acres) and structures will not be planned immediately adjacent to the park. We believe that the following concerns regarding Kukaniloko Birthstones State Park need to be addressed as the planning for this area continues:

- The historical setting and cultural integrity should be maintained through the establishment of adequate buffers and development setbacks. This includes not only sufficient land area around the site but considerations such as landscaping, open space land use around the park, and the construction of only low-rise structures in close proximity to the park.
- Access routes to the park should be coordinated in the planning stage to insure that an adequate buffer is maintained between the birthstones site and the roadway/parking area for the park.
- Public access to the site is accommodated and there are options available to secure the site as needed (eg. locked gates at night).

In addition, because the Commission on Water Resource Management has continuing concerns regarding land developments over aquifers and stream channel alterations, the Commission requests that it be consulted during the EA preparation process.

Thank you for your cooperation in this matter. Please feel free to call Cathy Tilton of our Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,

John P. Kappeler
John P. Kappeler
For WILLIAM W. PATY

JOHN WAIHIE
GOVERNOR
STATE OF HAWAII



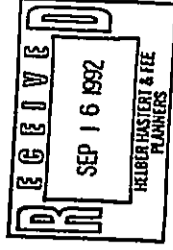
STATE OF HAWAII
DEPARTMENT OF BUDGET AND FINANCE
HOUSING FINANCE AND DEVELOPMENT CORPORATION
877 OHEA STREET, SUITE 200
HONOLULU, HAWAII 96813
FAX (808) 527-0880

JOHN WAIHIE
GOVERNOR
STATE OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P. O. BOX 1878
HONOLULU, HAWAII 96813

HIDALGO L. DRAKE
CHAIRMAN
HAWAIIAN HOMES COMMISSION



September 15, 1992

Ms. Gail Uyetake
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Application for Development Plan Amendment
and Environmental Assessment, Galbraith
Trust, Mahiawa Lands, Mahiawa District, Oahu

In determining the scope of analysis for the application
and assessment which will be prepared for the subject project,
please consider the following:

1. The proposed urbanization of more than 800 acres of
pineapple lands in Central Oahu contradicts objectives
and policies in the Hawaii State Plan (Section 226-7)
and the Oahu General Plan (Objective C., Policy 4.).
2. The proposed new land uses would reduce groundwater
recharge and increase the demand for potable water.

The Department of Hawaiian Home Lands is generally opposed
to new commitments for urbanization until adequate water
reserves are assured for projects on Hawaiian home lands
through the Oahu Water Management Plan currently being
developed.

Please continue communications with us as a consulted
party. Should you have any questions, contact Mr. Ben
Henderson of our Planning Office at 586-3838.

Warmest aloha,

Hidalgo L. Drake
Hidalgo L. Drake, Chairman
Hawaiian Homes Commission

HLD:DH:JC:asy

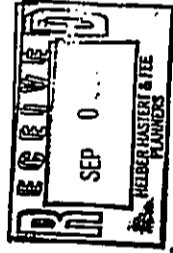
2558L

JOSEPH K. CORANT
EXECUTIVE DIRECTOR



STATE OF HAWAII
DEPARTMENT OF BUDGET AND FINANCE
HOUSING FINANCE AND DEVELOPMENT CORPORATION
877 OHEA STREET, SUITE 200
HONOLULU, HAWAII 96813
FAX (808) 527-0880

IN REPLY REFER TO:
92:PPP/4753jt



September 25, 1992

Ms. Gail Uyetake
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Re: Application for Development Plan Amendment and
Environmental Assessment for Galbraith Trust, Mahiawa Lands

Thank you for the opportunity to provide comments on the
proposed plan for the subject project.

In describing the project, we would appreciate if the following
information could be provided: the proposed number and type of
residential units planned for development; targeted income
groups; if applicable, targeted special populations (e.g.,
persons who are physically or mentally challenged); and a
development timetable.

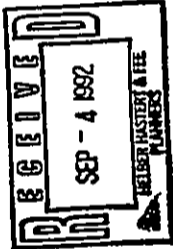
Sincerely,

Joseph K. Corant
JOSEPH K. CORANT
Executive Director



STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
278 SOUTH KING STREET
FOURTH FLOOR
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-1185

September 2, 1992



BRIAN J. CHOY
Director

Ms. Gail Uyetake
September 2, 1992

If you have any questions, please call Karen Mau at 586-4185.
Thank you.

Sincerely,

Brian J. Choy
Brian J. J. Choy
Director

BC:km
Enclosure: Act 241 notice

Ms. Gail Uyetake
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Application for Development Plan Amendment and Environmental Assessment
Galbraith Trust Wahiawa Lands
Wahiawa District, Oahu, Hawaii
TMK # (1)-7-1-001; 005; 006; 007; 008; 025; 026; 031; 032; por. 011, por. 029, & por. 030

Thank you for the opportunity to comment on the draft concept development plan and land use summary. We have the following comments:

The State Land Use Commission receives petitions for district boundary amendments greater than 15 acres. Please consult with the Commission, if you have not yet done so, to determine if additional studies may be required regarding the proposed boundary changes.

Environmental assessments anticipated to receive a negative declaration determination are subject to Act 241, SLH 1992, which became effective on June 17, 1992. This change allows the public and other agencies the opportunity to comment on a project before a determination is made. Enclosed for your reference is a notice regarding the Act 241 changes.

Projects which will require an Environmental Impact Statement (EIS) will undergo the same process as before, with a 30-day comment period following publication of the EIS Preparation Notice in the DEQC Bulletin.

JOHN WAINALE
Copy 1

10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

NOTICE

ACT 241 REQUIRES COMMENT PERIOD FOR ENVIRONMENTAL ASSESSMENTS (For anticipated Negative Declarations)

Act 241 Session Laws of Hawaii (SLH) 1992, was approved by the Governor on June 17, 1992, and became effective on that date. All environmental assessments received with letters of determination dated after June 17, 1992, will be subject to this Act.

The Act changes the EIS review process in the following ways:

1. Environmental assessments (EA), for which a negative declaration is anticipated, will now undergo a formal 30-day comment period before a determination is made by an agency. The notice of availability of the Draft EA will be published in the *OEQC Bulletin*.

Note: This new comment period does not replace the "early assessment" provisions in §11-200-9, Hawaii Administrative Rules.

2. The public and other agencies have the opportunity to comment on a Draft EA before a final determination is made. The applicant or agency must respond in writing to comments postmarked within the 30-day review period. The agency must then prepare a final EA which includes all comment letters and their responses. If appropriate, the text, figures, tables, and maps/diagrams in the EA should be revised. The agency must then determine whether the final EA will result in either a negative declaration or an EIS preparation notice.

3. The former 60-day period to initiate judicial proceedings concerning a negative declaration determination has been reduced to 30 days from the date of the *OEQC Bulletin* in which the notice of the final determination is published. (The 60-day period to initiate judicial proceedings concerning an EIS preparation notice determination remains unchanged.)

If you have any questions, please call OEQC staff at 586-4185. Thank you for your cooperation.

OEQC Bulletin

GUIDELINES FOR IMPLEMENTING ACT 241, SLH 1992 RELATING TO ENVIRONMENTAL ASSESSMENTS

The following guidelines apply to all Environmental Assessments (EA) for which a negative declaration determination is anticipated.

- 1) Submit Draft EA to OEQC with the following:
 - Letter stating that a negative declaration is anticipated and that notice of the Draft EA should be published in the *OEQC Bulletin*.
 - 4 copies of the Draft EA (same number as before)
 - *OEQC Bulletin Publication Form* (July, 1992 revision of form included in this publication)
- 2) The 30-day comment period begins when notice of availability of the Draft EA is published in the *OEQC Bulletin*. The agency must respond to all comment letters received. Once the 30 days have passed, the agency must include all comment letters and their responses in the final EA. If appropriate, the text and graphics of the EA should be revised.
- 3) Submit Final EA and determination to OEQC with the following:
 - Letter of determination (Negative Declaration or EIS Preparation Notice)
 - 4 copies of the Final EA
 - *OEQC Bulletin Publication Form*
- 4) A 30-day period to initiate litigation will begin once the notice of the final determination of a Negative Declaration is published in the *OEQC Bulletin*.

OEQC will be revising the "Guidebook for the Hawaii State Environmental Review Process," to reflect the changes brought about by Act 241. If you have any questions, please call the OEQC staff at 586-4185. We appreciate your cooperation.

July 23, 1992

JOHN WAKE
DIRECTOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
608 PUNAHONA STREET
HONOLULU, HAWAII 96813-5097

September 10, 1992

Ms. Gail Uyetake
Project Planner
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Application for Development Plan Amendment
And Environmental Assessment
Galbraith Trust Wahiawa Lands

We understand there will be future opportunities to provide comments such as during the review of the environmental impact statement, petition for land use boundary change, application for a Development Plan Amendment, and possible others.

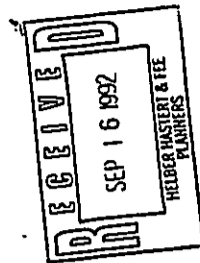
As a minimum, the developer shall prepare a Traffic Impact Analysis Report and submit it to our department for review. The analysis should include local and regional impacts and identify mitigative measures to minimize and/or alleviate the impacts. In addition, the developer shall, at no cost to the State, appoint a transportation manager whose function is the formulation, use, and continuation of alternative transportation opportunities. The developer may participate in a regional program for transportation management with other developers and/or landowners. Options shall continue to be in effect unless otherwise directed by the Department of Transportation.

We appreciate this opportunity to provide comments.

Sincerely,

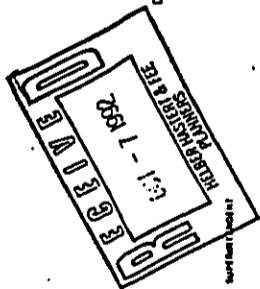
Rex D. Johnson
Director of Transportation

REX D. JOHNSON
DIRECTOR
QUINTA DIRECTION
JOYCE T. QUINE
AL PAHO
JEANNE K. SCHULTZ
CALVIN H. TSUDA
BY REPLY REFER TO:
STP 8.4800



JOHN WALKER
GOVERNOR

CHARLES T. TOUCHA
SUPERINTENDENT



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P. O. BOX 1204
HONOLULU, HAWAII 96813

OFFICE OF THE SUPERINTENDENT

September 25, 1992

Ms. Gail Uyetake
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

SUBJECT: Application for Development Plan Amendment
and Environmental Assessment of Galbraith Trust
Wahiawa Lands
TMK: 1(1)-7-1-001, 005, 006, 007, 008, 025, 026,
031; POR. 011, POR. 029, & POR. 030

Our review of the subject application indicates that the proposed development will have a severe impact on the schools in the area. The planned 3,009 residential units in this subdivision will generate the following number of students for the public schools in the area:

School	Grade	Projected Students
Kaala/Hoalemalo/Hale Kula	K-6	626
Wahiawa Intermediate	7-8	184
Leliuhua High	9-12	260

The Department of Education (DOE) cannot assure the availability of classrooms to accommodate the 1,070 students projected from this development. All five schools are operating beyond capacity and face a shortage of classrooms.

We will request that the developer make a fair-share contribution to the satisfaction of the DOE for the construction of needed school facilities. The draft concept development plan designates two potential elementary school sites of six-acres next to a public park.

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

Ms. Gail Uyetake

-2-

September 25, 1992

The DOE will require that a minimum of eight-acres of usable land be set aside for an elementary school if located adjacent to a public park. If a public park is not available, then the DOE will require an area of 10-12 acres of usable land for an elementary school.

We request that the developer contact the DOE to discuss future plans. Should there be any questions, please call the Facilities Branch at 737-4743.

Sincerely,

Charles T. Toucha
Superintendent

CTT:hy

cc: A. Suga
R. Lee

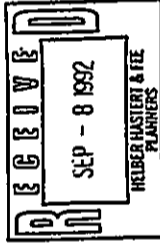


Suite 1509
1161 Bishop Street
Honolulu, Hawaii 96813

Oahu
Metropolitan
Planning
Organization

(808) 587-2015
(808) 523-4178
(808) 587-2018 FAX

September 3, 1992



Ms. Gail Uyetake, Project Planner
Helber Hasteri & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Galbraith Trust Wahiawa Lands - DP Amendment

We have reviewed the draft concept development plan and land use summary and offer the following comments:

1. A sizeable number of dwelling units are being proposed (3,009). An assessment of the traffic impacts should be made to the surrounding transportation facilities as well as its impact on the most congested traveled corridor leading to the CBD. A discussion as to proposed mitigation measures should also be provided.
2. Job opportunities provided by this development should be identified or estimated since some of these jobs could reduce peak travel going to and from the CBD by attracting workers living in the surrounding area.

Thank you for the opportunity to comment. If you have any questions regarding these comments, please call me.

Sincerely,

Gordon G. W. Lum
Gordon G. W. Lum
Executive Director

BUILDING DEPARTMENT
CITY AND COUNTY OF HONOLULU
HONOLULU MUNICIPAL BUILDING
830 SOUTH KING STREET
HONOLULU, HAWAII 96813

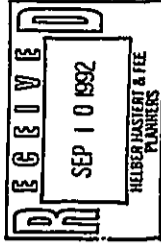


FRANK F. FASI
SAVOR

HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

PB 92-883

September 9, 1992



Helber Hasteri & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Attn: Gail Uyetake

Gentlemen:

Subject: Application for Development Plan Amendment
and Environmental Assessment
Galbraith Trust Wahiawa Lands
Wahiawa District, Oahu, Hawaii

This is in reply to your letter dated August 25, 1992 relative to the subject matter.

We have reviewed the draft concept development plan and have no comments to offer.

Very truly yours,

Herbert K. Muraoka
HERBERT K. MURAOKA
Director and Building Superintendent

cc: J. Harada

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
430 SOUTH KING STREET
HONOLULU HAWAII 96813

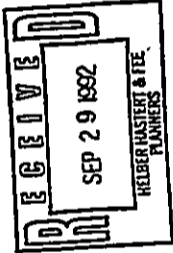


FRANKIE ZAHN
511008

JOSEPH H. MAGALDI, JR.
DIRECTOR
AMAR BAPPAL
DEPUTY DIRECTOR

TE-3737
PL92.1.312

September 25, 1992



Ms. Gail Uyetake
Project Planner
Helber, Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Wahiawa Lands Master Plan - Galbraith Trust
Development Plan Amendment/
Environmental Assessment Proposal
THK: 7-1-1: 5-8, 25, 26, 31, 32 Por. 11, 29,
and 30

This is in response to your letter dated August 25, 1992
requesting our comments on the draft conceptual development plan
for the subject project.

Based on our review of the preliminary plans, we have the
following general comments:

1. A roadway master plan for all major streets should be submitted to our office and should include roadway cross-sections and laneage; schematic intersection details and turning lanes; locations of restricted vehicular access; anticipated land use, size, number of dwelling units and/or buildable commercial floor area of each site; a phasing schedule; and other details, as required.
2. Access to and from individual sites in the vicinity of major intersections should be avoided.
3. The alignment of the roadway adjacent to the northern boundary of the golf course should be aligned to minimize the amount of horizontal curves.
4. The realignment of Kaukonahua Road west of Kamananui Road should be clearly specified.

Ms. Gail Uyetake
Page 2
September 25, 1992

5. The location of the park-and-ride facility should be coordinated with the Honolulu Public Transit Authority. Please be advised that unless otherwise specified, we will assume that the jurisdictional limits of the existing highway system surrounding this development will remain the same. Should you have any questions, please contact Mel Hirayama of my staff at 523-4119.

Sincerely,

JOSEPH H. MAGALDI, JR.
Director

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
630 SOUTH BERTANHA STREET
HONOLULU, HAWAII 96813



September 21, 1992

FRANK F. FASI, Mayor
WALTERO WATSON, JR., Chairman
LAWRENCE H. YAMASATO, Vice Chairman
SISTER M. DAVIDSON, AH CHICK, O.S.F.
JOHN W. ANDERSON, JR.
REX D. JOHNSON
MELISSA Y. I. LUU
C. MICHAEL STREET
KAZU HAYASHIDA
Manager and Chief Engineer

Ms. Gail Uyetake
Helbert Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Your Letter of August 25, 1992 Regarding Application for Development Plan Amendment and Environmental Assessment - Galbraith Trust Waiahawa Lands

Thank you for the opportunity to comment on the proposed development. We have no objections to the proposal.

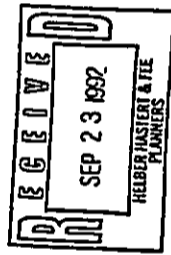
We have the following comments:

1. The developer will be required to install all water system facilities needed to serve the project, which will include source, storage reservoir, and transmission mains.
2. A water master plan of the project should be submitted for our review and approval.

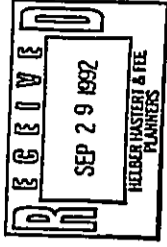
If you have any questions, please call Bert Kuiuoka at 527-5235.

Very truly yours,

KAZU HAYASHIDA
Manager and Chief Engineer



DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813



WALTER H. OZAWA
DIRECTOR
ALVIN K.C. AU
DEPUTY DIRECTOR

September 24, 1992

Ms. Gail Uyetake
Helbert Hastert & Fee
Grosvenor Center, PRI Tower
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Application for Development Plan Amendment and Environmental Assessment Galbraith Trust Waiahawa Lands Development Tax Map Key 7-1-01: 05 et al

We have reviewed the proposed Waiahawa Lands project for consideration to amend the Central Oahu Development Plan and make the following comments and recommendations.

The size of the project will have a significant impact on our public parks and facilities in the Waiahawa district. It is important that an effective public and private recreation system be established to serve the project.

We are unable to adequately assess the project's public park needs without knowledge of which recreation facilities are to be public or private.

We recommend that you meet with our staff to discuss the project as soon as possible to determine the number, type, size and location of public parks required to serve the 3,000-unit project. Lands to be dedicated to the City for public park purposes must meet City standards and requirements.

Please contact Jason Yuen of our Advance Planning Branch at 527-6315 to discuss the project's recreational needs and park requirements.

Sincerely,

For WALTER H. OZAWA, Director

WHO:ef

cc: Department of General Planning

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

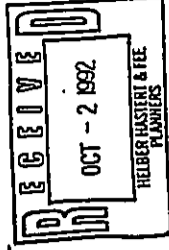
830 SOUTH KING STREET
HONOLULU, HAWAII 96813



C. MICHAEL STREET
DIRECTOR AND CHIEF ENGINEER
FRANK R. LUTJACKO
SENIOR ENGINEER

ENV 92-246

September 30, 1992



Ms. Gail Uyetake, Project Planner
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Application for Development Plan Amendment and
Environmental Assessment (EA)
Galbraith Trust Wahiaua Lands
THK: Various

We have reviewed the subject EA and have the following comments:

1. All new roads within the Wahiaua Lands Master Plan that are planned to be dedicated to the City should be designed and constructed in accordance with City standards.
2. A traffic study is required as part of the Draft Environmental Impact Statement and should be submitted to us for review and comment.
3. A drainage report should also be submitted to the Drainage Section, Division of Engineering, for review and approval.
4. The existing Wahiaua and Whitmore Village municipal sewer systems are located adjacent to the proposed Galbraith Trust development. However, neither sewer system was planned and designed for, nor is capable of servicing the proposed development at this time.
5. Currently, we do not have plans to expand the existing Wahiaua or Whitmore Village sewer systems to serve future developments since we are undertaking a study to divert the effluent discharges of the two treatment plants from Lake Wilson. The most feasible alternative will be recommended upon the completion of the study which is tentatively scheduled for late 1993.

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU

830 SOUTH KING STREET
HONOLULU, HAWAII 96813 • (808) 533-4133



DONALD A. CLEGG
DIRECTOR
LORETTA M. CHIEZ
SUPERVISOR

92-02664 (ASK)

September 29, 1992

Ms. Gail Uyetake, Project Manager
Helber Hastert and Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake

Environmental Assessment
Galbraith Trust Wahiaua Lands

This responds to your August 25, 1992 letter regarding preparation of an Environmental Assessment for a proposed Development Plan for an 800 acre development in Wahiaua.

We have reviewed the draft concept development plan and land use summary. Based on the magnitude of the project, we anticipate that the proposal may result in significant environmental impacts which would warrant preparation of an Environmental Impact Statement (EIS).

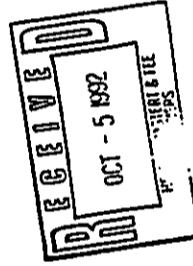
Should you have questions regarding the above, you may contact Ardis Shaw-Kim of our staff at 527-5349.

Very truly yours,

Donald Clegg

DONALD A. CLEGG
Director of Land Utilization

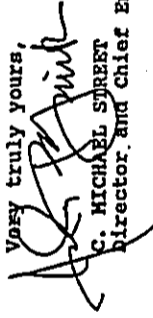
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Ms. Gail Uytake
Page 2
September 30, 1992

6. If the development is being proposed at this time, a private wastewater treatment plant will have to be constructed to provide adequate sewer services. Such treatment plant will have to obtain approval from the State Department of Health.
7. The environmental assessment (EA) or the draft environmental impact statement (DEIS) should address the impact of storm water discharges from the proposed municipal storm sewer system on water quality of the receiving water.
8. The EA or the DEIS should also state what structural or non-structural best management practice (BMP) will be provided to control and reduce the discharge of pollutants to the maximum extent practicable (MEP) as outlined in the National Pollutant Discharge Elimination System (NPDES) regulations (40 CFR Part 122, Subpart B for municipal storm water systems).

Very truly yours,



C. MICHAEL STREET
Director, and Chief Engineer

DEPARTMENT OF HUMAN RESOURCES
CITY AND COUNTY OF HONOLULU

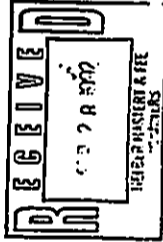
STANDARD FINANCE BUILDING
715 SOUTH KING STREET, 2ND FLOOR
HONOLULU, HAWAII 96813 • (808) 527-3311



FRANK F. ZAH
MAYOR

VICTOR D. GUM, ESQ., JR.
DIRECTOR

RODY PACARAO
DEPUTY DIRECTOR



September 24, 1992

Ms. Gail Uyetake
Project Planner
Helber Hastert & Fee, Planners
733 Bishop Street
PRI Tower, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetaké:

This is in response to your letter dated August 25, 1992, requesting our comments on the proposed Wahiawa Lands Master Plan.

In reviewing the draft concept development plan and land use summary documents for the proposed project, we offer the following comments:

- (1) We note that the block detail provided on the draft concept development plan includes an Elderly Housing project/component. As the average life expectancy of our citizens continue to increase, there will be a greater need for affordable senior citizen housing projects, therefore, we would strongly favor the inclusion of an elderly housing project as part of the overall development.
- (2) With the number of dwelling units (3009) proposed as part of the Wahiawa Lands Master Plan, we see the need for a facility to provide affordable and quality child care services. For your information, existing child care centers in Central Oahu are filled to capacity and the City's planned child care center in Millilani Mauka will only be able to accommodate a maximum of 150 children. Additionally, a recent survey, Millilani Child Care Center Survey: Catalyst Productions, 1991, projected that approximately 1,162 children in the Millilani area will be in need of some form of child care by the year 1995; and,

Ms. Gail Uyetake
September 24, 1992

Page Two

- (3) We further recommend that a fair number of units be developed for low income and "gap" group families to address the need for affordable rentals.

We look forward to having the opportunity to comment further on this project as it continues to evolve.

Thank you.

Sincerely,

VICTOR D. GUILLEMO, JR.
DIRECTOR
Department of Human Resources

VDC:ds

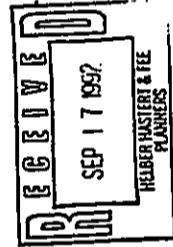
FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
1453 SOUTH BERTANL STREET, ROOM 303
HONOLULU, HAWAII 96813



FRANK E. PAST
MAYOR

LYONEL E. CAMARA
FIRE CHIEF
DONALD S.M. CHANG
DEPUTY FIRE CHIEF

September 15, 1992



Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

ATTENTION: Gail Uyetake, Project Planner

Gentlemen:

Application for Development Plan Amendment
and Environmental Assessment
Galbraith Trust Wahiaua Lands
Wahiaua, District, Oahu, Hawaii
TMK (1)-7-1-001; 005; 006; 007; 008; 025; 026;
031; 032; por. 011, por. 029, & por. 030;

We have reviewed the subject material provided and foresee no adverse impact in Fire Department facilities or services.

Access for fire apparatus, water supply and building construction shall be in conformance to existing codes and standards.

Should you have any questions, please contact Assistant Chief Attilio Leonardi of our Administrative Services Bureau at 943-3838.

Sincerely,

DONALD S. M. CHANG
Acting Fire Chief

AKL:ty

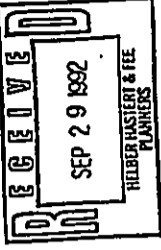
POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU
881 SOUTH BERTANLIA STREET
HONOLULU, HAWAII 96813 - AREA CODE (808) 929-3111



FRANK E. PAST
MAYOR

MICHAEL S. MAJAHURA
CHIEF
HAROLD M. KAWASAKI
DEPUTY CHIEF

September 21, 1992



Ms. Gail Uyetake, Project Planner
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: Application for Development Plan Amendment and Environmental Assessment, Galbraith Trust Wahiaua Lands, Wahiaua District, Oahu, Hawaii, TRK # (1)-7-1-001; 005; 006; 007; 008; 025; 026; 031; 032; por. 011, por. 029, & por. 030

This is in response to your request of August 25 for comments on the proposed application for a development plan amendment and environmental assessment for approximately 800 acres of land near Wahiaua.

We have only two general comments at this stage of the proposal process.

Police service for the area covered by this proposal will be provided by the Wahiaua Station. A development of this size is likely to cause a considerable increase in calls for service in the long run. This in turn may require additional personnel and supporting equipment.

Regarding the development itself, our concerns normally center on public safety and security and traffic flow. We would encourage those responsible for designing and constructing this development to give as much attention as possible to these concerns. For example, lighting in the area should be adequate to prevent accidents and discourage criminal activity, buildings should be designed with the security of the residents in mind, roadways should provide access for emergency vehicles and minimize traffic hazards, and so forth. More specific comments will depend on the details of the proposed development.

Thank you for the opportunity to comment.

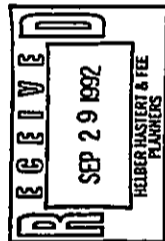
Sincerely,

MICHAEL S. MAJAHURA
Chief of Police
By
CHESTER E. HUGHES
Assistant Chief of Police
Support Services Bureau



William A. Bonnet
Manager
Environmental Department

September 28, 1992



Ms. Gail Uyetake
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, HI 96813

Dear Ms. Uyetake:

Subject: Application for Development Plan Amendment (DEA) and
Environmental Assessment (EA)
Galbraith Trust Wahiawa Lands
Wahiawa District, Oahu, Hawaii

We have reviewed the subject DEA and EA and have no comments on the proposed application at this time. HECO shall reserve further comment pertaining to the protection of existing powerlines bordering and servicing the proposed project area until construction plans are finalized.

Sincerely,

An HEI Company



GTE Hawaiian Tel

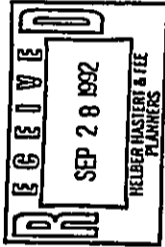
Beyond the call

GTE Hawaiian Telephone Company Incorporated
PO Box 2200 Honolulu, HI 96841 (808) 548-4511

September 24, 1992

Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, HI 96813

Attn: Gail Uyetake



Application for Development Plan Amendment and Environmental Assessment, Galbraith Trust, Wahiawa Lands.

Thank you for the opportunity to comment on the above subject project. HTC currently has existing aerial and buried cables within the proposed development area (See attached marked up plan). The cables indicated on the plan are military owned and maintained by HTC. Any work in the area that affects these cables must be coordinated with HTC.

Also, additional facilities must be extended from Wahiawa to serve this development. Support Structures such as ductlines, manholes, and easements will have to be provided by the developer and accepted by HTC.

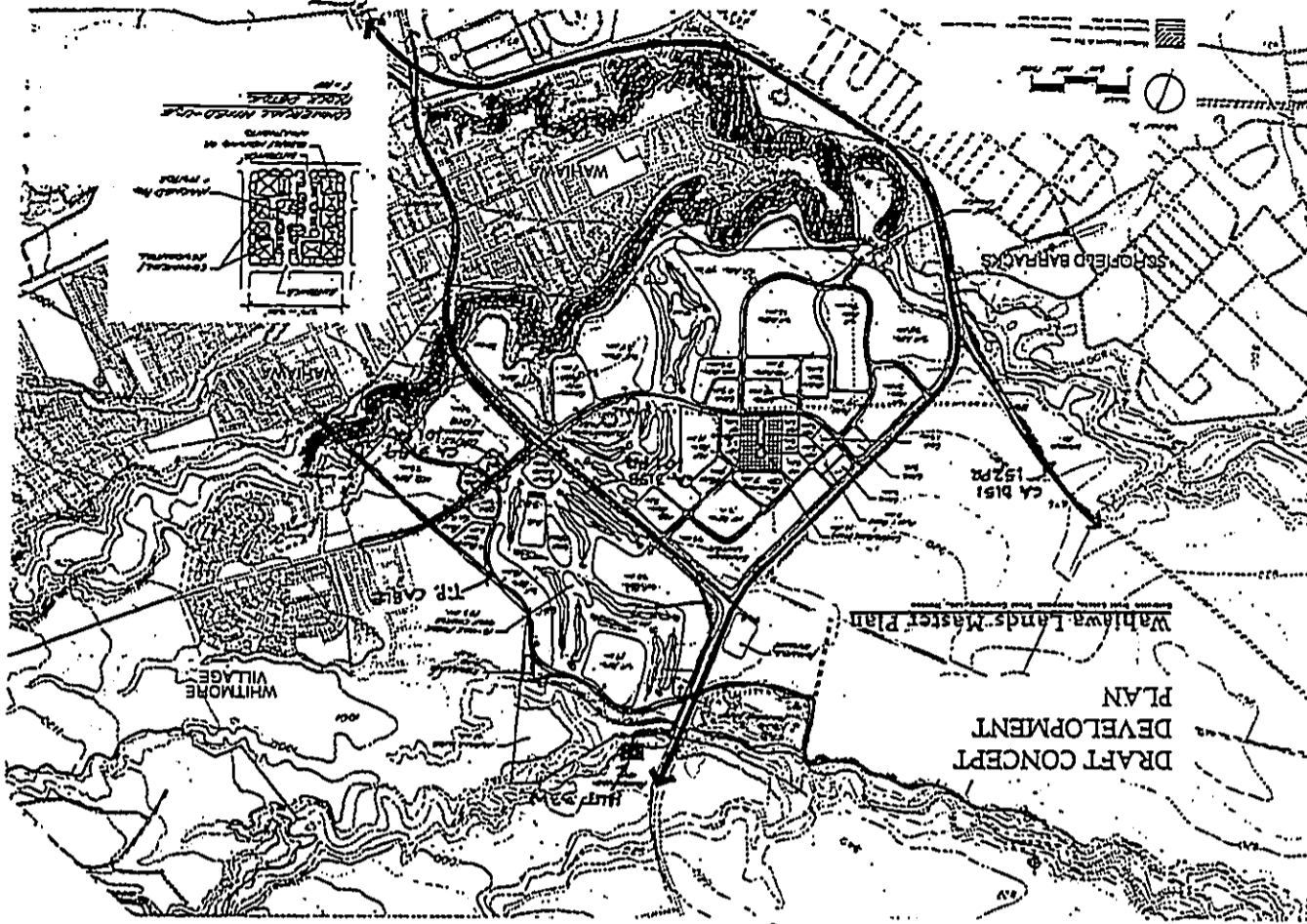
Please provide an estimated timeframe as to when this project will begin to help us plan for it.

If you have any questions, please call Garret Hayashi at 834-6262.

Winslow Tanabe
Operations Manager
OSP Engineering

WT/CH/[JK092492.ni]

c: F. Alueta
N. Ito
File



CHAPTER 13

References

CHAPTER 13 REFERENCES

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- Decision Analysts Hawaii, Inc. *Wahiawa Lands Master Plan: Impact on Agriculture*. Prepared for Helber Hastert & Fee, Planners. January 1993.
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- Sam O. Hirota, Inc. *Wahiawa Lands Infrastructure Report*. Prepared for Helber Hastert & Fee, Planners. December 22, 1992.
- United States. Department of Agriculture. Soil Conservation Service. *Soil Survey of Islands of Kauai, Oahu, MBA, Molokai, and Lanai, State of Hawaii*. August 1972.
- Walker, William J., Ph.D. *Environmental Impact Assessment for the Proposed Golf Course at Wahiawa Lands*. November 25, 1992.
- Water Resource Associates. *Groundwater Resources and Supply*. Prepared for Helber Hastert & Fee, Planners. December 1992.
- Wilbur Smith Associates. *Wahiawa Galbraith Trust Lands Traffic Study*. Prepared for Helber Hastert & Fee, Planners. December 22, 1992.

CHAPTER 14

Comments and Responses Received
During the Preparation of the Final EIS

CHAPTER 14 CONSULTED PARTIES AND PARTICIPANTS IN THE FINAL EIS PREPARATION PROCESS
--

14.1 Participants in the Final EIS Preparation Process

This report was prepared for Hawaiian Trust Company, Ltd. by Helber Hastert & Fee, Planners. The following list identifies individuals and organizations who were involved in the preparation of this report and their respective contributions.

Helber Hastert & Fee, Planners

Thomas A. Fee (Principal-in-charge and Project Manager)
Gail M. Uyetake (Project Planner and Principal Author)

Technical Consultants

Gail W. Atwater/James W. Stanney (Market Assessment)
Phillip L. Bruner, Ph.D. (Avifauna and Mammals)
Community Resources, Inc. (Socio-economic/Fiscal assessment)
Darby & Associates (Acoustical Engineering)
Decision Analysts Hawaii, Inc. (Agricultural Economics)
Evangeline J. Funk, Ph.D. (Botany)
Sam O. Hirota, Inc. (Civil Engineering)
J.W. Morrow (Meteorology)
Paul H. Rosendahl, Inc. (Archaeology)
William J. Walker, Ph.D. (Environmental Chemistry)
Water Resource Associates (Hydrology)
Wilbur Smith Associates (Traffic Engineering)

14.2 Parties Consulted During the Preparation of the Final EIS

Notice of the Draft EIS was published in the February 8, 1993 *OEQC Bulletin*. Copies of the DEIS were distributed to 67 agencies, organizations, and libraries. The deadline for comments was March 25, 1993. A total of 35 written comments were received by April 19, 1993. The agencies, organizations and individuals who responded are identified below. Both comments and applicant responses are reprinted on the following pages.

Federal Agencies

Department of the Navy, Commander, Naval Station Pearl Harbor
Department of the Army, U.S. Army Engineer District
Department of Agriculture, Soil Conservation Service
Geological Survey
Army Directorate of Facilities Engineering

State Agencies

Department of Land and Natural Resources
Department of Land and Natural Resources, Historic Preservation Division
Department of Business, Economic Development and Tourism, Land Use Commission
Department of Human Services
Office of State Planning

Department of Accounting and General Services
Department of Agriculture
Department of Business, Economic Development & Tourism
Department of Health
Housing Finance and Development Corporation
Department of Hawaiian Home Lands
Office of Environmental Quality Control
Department of Defense
Department of Transportation
Department of Education

University of Hawaii

Environmental Center

City and County of Honolulu

Planning Department
Department of Transportation Services
Board of Water Supply
Department of Parks and Recreation
Department of Public Works
Department of Human Resources
Department of Housing and Community Development
Police Department
Honolulu Public Transit Authority

Public Utilities

Hawaiian Electric Company, Inc.
GTE Hawaiian Telephone Company, Inc.

Other Agencies, Organizations and Individuals

Wahiawa Neighborhood Board
City Councilmember Rene Mansho
Daniel Au
Kenneth Martyn



DEPARTMENT OF THE NAVY
 CHIEF OF NAVAL OPERATIONS
 NAVAL BASE PEARL HARBOR
 BOX 110
 PEARL HARBOR, HAWAII 96820-0110

11010
 Ser N4(235)/1077
 19 Mar 1993

DRAFT ENVIRONMENTAL IMPACT STATEMENT
 WAIHANA LANDS DEVELOPMENT
 ONUO, HAWAII

NAVY COMMENTS
 12 March 1993

Mr. Brian Suzuki
 Department of General Planning
 City and County of Honolulu
 650 South King Street
 Honolulu, HI 96813

Dear Mr. Suzuki:

DRAFT ENVIRONMENTAL IMPACT STATEMENT
 WAIHANA LANDS DEVELOPMENT

Thank you for the opportunity to comment on the subject Draft Environmental Impact Statement (DEIS). The Navy's comments are presented as an enclosure to this letter.

Our point of contact is Mr. Bill Liu, Facilities Engineer, at 471-3324.

Sincerely,

W.K. Liu
 W.K. LIU
 FACILITIES ENGINEER
 BY DIRECTOR OF
 THE COMMANDER

Encl:
 (1) Navy Comments of 12 Mar 93

Copy to:
 Mr. Brian J. J. Choy
 Office of Environmental Quality Control
 220 South King Street, 4th Floor
 Honolulu, HI 96813

Mr. Michael Angotti
 Hawaii Trust Company, Ltd.
 P.O. Box 3170
 Honolulu, HI 96802-3170

Ms. Gail Uytake
 Heiber Hastert & Fee, Planners
 733 Bishop Street, Suite 2590
 Honolulu, HI 96813

Item

Page 1-6, Para 1.5

Pages 2-11, 5-7, and 5-11

Page 6-13

Page 6-23

Page 6-24, End of Para 6.10

General

Comments

The Navy considers radio-frequency interference of the Naval Computer and Telecommunications Area Master Station, Eastern Pacific (NCTAMS EASTPAC) Circularly Disposed Antenna Array (CDAA) as an unresolved issue.

Although the Navy's concerns with specific activities related to the project have been outlined in previous correspondence, we request additional information on the proposed "repair and maintenance" activities contemplated for the commercial/light industrial area.

Please provide additional information (size, type of construction, power, and pumps) on the proposed reservoir and pumping stations that will fall within 1 mile of the CDAA.

We find it difficult to differentiate whether the electrical duct lines shown in Figures 14 of Appendix L are currently situated overhead or underground. Similarly, Figure 15 of Appendix L does not identify which, if any, of the electrical duct lines are to be buried. Please identify which lines are to be buried and which will not be buried.

Regarding this item, the Navy extends its appreciation on the willingness of the developer to pursue further consultation to mitigate impacts on the CDAA.

Reiteration of some Navy concerns are provided below:

o Proposed housing densities within a 2-mile interference-free circular zone around the CDAA exceed acceptable levels established in Department of Defense directives. A 33-acre commercial/light industrial area is also planned within the 2-mile zone. Encroachment into the 2-mile zone subjects the CDAA to electromagnetic interference problems from "HAM" and "CB" radio transmitters, electric lawn mowers, and various other sources, which diminish the effectiveness of the CDAA.

Enclosure (1)

DRAFT ENVIRONMENTAL IMPACT STATEMENT
WAHIAWA LANDS DEVELOPMENT
OAHU, HAWAII

NAVY COMMENTS

Items

General (continuation)

Comments

- o Nearby overhead power lines are often the dominant source of radio frequency noise that interferes with CDAA operations. To mitigate the negative impacts, the Navy encourages construction of such utilities underground.
- o Modern radio frequency heating appliances used in the U.S. have been known to function outside their authorized frequency band and cause problems for the CDAA.
- o Construction of tall and conductive structures near the CDAA should be discouraged since the use of large amounts of metal and concrete may alter antenna patterns. Accordingly, tall structures should be kept from intruding into the three degree vertical clearance zone by remaining distant from the CDAA.
- o Locate the electrical substation outside the two-mile arc and place all associated electrical lines underground to minimize offending radio frequency interference on critical fleet support and contingency operations conducted throughout the Pacific Region.

Helber Haster
Planners

April 5, 1993

Mr. W.K. Liu, Facilities Engineer
Commander
Naval Base Pearl Harbor
Department of the Navy
Box 110
Pearl Harbor, HI 96860-5020

Dear Mr. Liu:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 19, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

1. The final EIS will note that the Navy considers radio-frequency interference of the Naval Computer and Telecommunications Area Master Station, Eastern Pacific (NCTAMS EASTPAC) Circularly disposed Antenna Array (CDAA) as an unresolved issue.
2. While "repair and maintenance" activities are some uses which may be tenants in the proposed commercial/flight industrial area, the specific characteristics of these activities will be determined as the project proceeds into more a more detailed planning stage.
3. According to the project civil engineer, Sam O. Hirota, Inc., the proposed water storage reservoirs will probably be constructed of reinforced concrete. Pump stations will be equipped with electric pumps. Design of the pump stations can be coordinated with the Navy to mitigate any adverse effects with respect to Navy operations.
4. According to the project civil engineers, all existing electrical duct lines shown on Figure 14, Appendix L of the DEIS, are buried. The proposed electrical duct lines shown on Figure 15, Appendix L, will be buried.
5. The general concerns listed in your letter will be included in the final EIS.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

HELBER HASTER & FEE, Planners

Gail M. Uyetake
Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Helber Haster & Fee
Construction Center, 1911 Tower
713 Bishop Street, Suite 2720
Honolulu, Hawaii 96813
Telephone: (808) 512-2915
Facsimile: (808) 512-2020



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, HONOLULU
FORT SHAFTER, HAWAII 96858-3440

REMOVED
ATTENTION OF

February 25, 1993



Planning Division

Mr. Brian Suzuki
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Suzuki:

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement for the Wahiawa Lands Development Project, Oahu. We have no additional comments beyond those stated in our letters dated September 23, 1992 and December 3, 1992.

Sincerely,

Kisuk Cheung, P.E.
Director of Engineering

Copies Furnished:

Mr. Michael Angotti
Hawaiian Trust Company, Ltd.
P.O. Box 3170
Honolulu, Hawaii 96802-3170

Ms. Gail Uyetake
Helber Haster & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Helber Haster
Planners

April 12, 1993

Mr. Kisuk Cheung, P.E.
Director of Engineering
U.S. Army Engineer District, Honolulu
Department of the Army
Fort Shafter, HI 96858-3440

Dear Mr. Cheung:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated February 25, 1993 responding to our request for comments on the above-referenced DEIS. We note that you have additional comments beyond those stated in your letters dated September 23, 1992 and December 3, 1992.

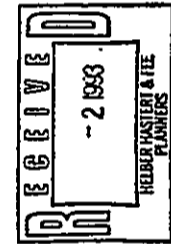
We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

HELBER HASTER & FEE, Planners

Gail Uyetake
Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.



Helber Haster & Fee
Creative Center, PMB Tower

733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Telephone: 808-535-2015
Facsimile: 808-535-2020

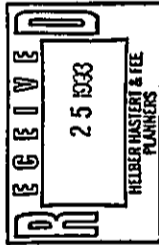
UNITED STATES
DEPARTMENT OF
AGRICULTURE

SOIL
CONSERVATION
SERVICE

P. O. BOX 50004
HONOLULU, HAWAII
96850

March 22, 1993

Helber, Hasrert, & Fee, Planners
Attention: Gail Uyetake
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813



Dear Ms. Uyetake:

We have reviewed the Draft Environmental Impact Statement (DEIS) for Calbraith Trust Wahiava Lands and like to make the following comments.

The Soil Conservation Service is concerned about the preservation of prime agricultural lands and the prevention of nonpoint source pollution entering Wahiava Reservoir and Kaukonahua Stream.

The proposed development would entail the loss of approximately 800 acres of prime agricultural lands. The Soil Conservation Service opposes any loss of prime agricultural lands to non-agricultural uses. We believe that it is not in the best interest of the State of Hawaii to lose these very important agricultural lands. In addition, as cited in Appendix J of the DEIS, the loss of this valuable agricultural land could have dramatic adverse effects on the operations of the Del Monte Fresh Produce Inc. operations.

The Soil Conservation Service programs play an active role in the control of nonpoint source pollution, with our primary focus on agricultural sources. While the proposed development is not agricultural in nature, it is of interest to us because it is located within our USDA Waiialua-Kaiaka Bay Hydrologic Unit project area. This USDA funded project is designed to reduce the agricultural nonpoint source pollution that is currently occurring within the Waiialua and Kaiaka Bay watershed areas. The project, one of 14 Hawaii candidates, was selected in a process that awarded only 37 nationwide in 1991. The project goal is to improve the surface water quality of both bays and to preserve the ground water quality of the aquifer. This was one of the main reasons it was selected. The USDA project coordinators are working with other federal, State of Hawaii, and county agencies on programs to first assess the sources of nonpoint source pollution and then to provide technical assistance to control it. Needless-to-say, we are concerned that the proposed development should not work against our project and contribute nonpoint or point source pollution to Wahiava Reservoir, Kaukonahua Stream, and Kaiaka Bay.

While the nonpoint source pollution issues are generally covered in the Draft EIS, the specifics of the erosion and sediment control plans and the wastewater disposal issues are not outlined in the DEIS. It is important to understand that these specifics will determine the magnitude of the effects of this development.

In order to prevent pollution of Wahiava Reservoir, Kaukonahua Stream, and Kaiaka Bay, we would like to suggest that all of the runoff produced by the development, during the construction phase, be treated in temporary sediment retention basins and vegetative filters be used to remove sediment and chemical pollutants. The DEIS outlines the presence of vegetative buffer zones that would be established between the development, Pomaoho Gulch, and Lake Wilson in order to filter any surface runoff generated. We feel that temporary sediment retention basins, when used in conjunction with the vegetative filters, will help to protect the water quality of Wahiava Reservoir and Kaukonahua Stream.

We are also concerned about the additional wastewater that will be generated by this project. We had hoped that the Draft EIS would contain more specific alternatives for the treatment of the wastewater that would be generated by the development.

Thank you for the opportunity to comment on this proposed project. We would appreciate reviewing the final Environmental Impact Statement.

Sincerely,


MICHAEL R. CONNOR
State Conservationist

Helber Hastert
Planners

April 9, 1993

Mr. Nathaniel R. Conner
State Conservationist
United States Department of Agriculture
Soil Conservation Service
P.O. Box 50004
Honolulu, HI 96850

Dear Mr. Conner:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 22, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

The specifics of erosion and sediment control plans will be covered by the erosion control plan to be submitted to the City at the detailed design phase. This plan will be required to obtain a City grading permit and may include the mitigation measures recommended in your letter (treatment of all construction phase runoff produced by the development in temporary sediment retention basins and vegetative filters).

The DEIS estimated the volume of wastewater that would be generated by the proposed development and what portion of the treated wastewater could be used for irrigation of the golf course. The DEIS identified a specific alternative for treatment of the wastewater generated at the site (a 4.61 mgd tertiary level treatment plant), which was recommended by the project civil engineer based on an understanding of impending Department of Health standards of effluent discharge into Wahiawa Reservoir, and an ongoing City Division of Wastewater Management (DWWM) study by Calvin Kim. The DEIS also contained written and graphic descriptions of the proposed wastewater transmission and treatment system (page 6-16). The particular design for the wastewater treatment plant will be selected later after evaluating alternatives. The design of the treatment plant will be subject to the approval of the Department of Health and the DWWM.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.
Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyetake
Gail M. Uyetake
Project Planner

cc: Mr. Michael Angolli, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Helber Hastert & Fee
Government Center, Fifth Floor

2431 Hui-Lung Street, Suite 2000
Honolulu, Hawaii 96815

Telephone: 808-515-2625
Facsimile: 808-515-2038





United States Department of the Interior



GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
677 Ala Moana Blvd., Suite 415
Honolulu, HI 96813

March 8, 1993

Mr. Brian Suzuki
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

Dear Mr. Suzuki:

We have received the Draft Environmental Impact Statement for the Wahiawa Lands Development project and have no comments.

Thank you for the opportunity to review the document.

Sincerely,

William Meyer
William Meyer
District Chief

cc: Mr. Michael Angotti
Hawaiian Trust Company, Ltd.
P.O. Box 3170
Honolulu, HI 96802-3170

Gail Uyetake
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, HI 96813



Helber Hastert
Planners

April 5, 1993

Mr. William Meyer
District Chief
U.S. Department of the Interior
Geological Survey
Water Resources Division
677 Ala Moana Blvd., Suite 415
Honolulu, HI 96813

Dear Mr. Meyer:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 8, 1993 responding to our request for comments on the above-referenced DEIS. We note that you have no comments on the DEIS.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail Uyetake

Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Helber Hastert & Fee
Customer Center, P.O. Box 2590
Honolulu, Hawaii 96813

Telephone: (808) 515-2155
Facsimile: (808) 515-2074





DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY SUPPORT COMMAND, HAWAII
FORT SHAFTER, HAWAII 96341-5000



23 APR 1993

MAIL TO
ATTENTION OF

Directorate of Public Works

Mr. Brian Suzuki
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

RECEIVED
25

Dear Brian Suzuki:

Attached are comments pertaining to the Draft Environmental Impact Statement, Wahiawa Lands Development. The comments are provided by the Director of Plans, Training, Mobilization & Security. They are the major user of the land adjacent to the project area.

An error in the DEIS is that the Army has never discharged effluent into the lake as referenced on page 6-16, paragraph 1.

Should you require additional information, please contact Mr. Mark Salley, Environmental Office, phone 656-2878.

Sincerely,

Charles R. Wilson
Charles R. Wilson
Colonel, U.S. Army
Director of Public Works

Works

Enclosure

Copies Furnished:
State of Hawaii:
Office of Environmental Quality Control
Hawaiian Trust Company, Ltd.
Helber Mastert & Fee, Planners

15 MAR 1993

APVG-GT

MEMORANDUM FOR DPW

SUBJECT: Wahiawa Lands Development. Draft Environmental Impact Statement (DEIS). Wahiawa District, Oahu, HI

1. Comments for the DEIS were verbally solicited by DPW Environmental Technician, Mark Salley, 05 March 1993.
2. All urban development projects around any of the Army's training lands can have the potential to adversely affect Army training adjacent to the proposals.
3. The DEIS only identifies fixed wing and rotor wing aircraft as the only potential impact with this project. However, military training around the Schofield Barracks cantonment area encompasses a much broader scope. The Central Range training area, located less than 2 miles from the western edge of the proposal supports small arms qualifications. The McCarthy Fitz training area, located about 2 miles west of the project proposal supports small arms qualifications, artillery and rotor wing operations.
4. Small arms ranges are utilized almost every day. Noise generated by small arms training will have minimal impact to the proposal. In contrast, artillery and rotor wing operations are conducted infrequently, but noise levels will be significantly higher than small arms training during these events. Noise impacts again will be predominately to the western-edge of the proposal.
5. Full disclosure of the Army's training and noise levels associated with that training should be made available to all prospective purchasers.
6. To lower the impact of Army training noise to the western edge of the proposal, the developer should insure there are adequate noise buffers or similar noise attenuation devices incorporated into the design of the proposal.
7. The DPTMSEC POC is Mr. Garo. ph 656-2527.

Thomas F. Eitzel
THOMAS F. EITZEL, JR.
Colonel, AV
Director, DPTMSEC

Heller Haster & Fee, Inc.
Planners

April 20, 1993

Colonel Charles R. Wilson
Directorate of Public Works
Department of the Army
Headquarters, United States Army Support Command, Hawaii
Fort Shafter, HI 96858-5000

Dear Col. Wilson:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 23, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

1. The FEIS will note that all urban development projects around any of the Army's training lands can have the potential to adversely affect Army training adjacent to the proposals. With the exception of the proposed wastewater treatment plant site, the development area is not adjacent to any lands used by the Army for training.
2. The FEIS will include the information you provided on the military training around the Schofield Barracks cantonment area and the potential noise impacts of the infrequent artillery and rotor wing operations.
3. The FEIS will note that full disclosure of the Army's training and noise levels associated with that training should be made available to all prospective homeowners.
4. Noise impact mitigation measures are discussed in Section 4.8 of the DEIS. The applicant will continue to consult with the Army to insure that adequate noise buffers are incorporated into the design of the proposal.
5. The final EIS will be revised to exclude reference to Army discharge of effluent into Wahiawa Reservoir. We recognize that effluent from the Schofield Barracks treatment plant is discharged directly into the Waialua Sugar Company irrigation system, and has a permit to intermittently discharge into Kaula Stream ("Water Quality Management Plan for the City and County of Honolulu", City Department of Public Works and State Department of Health, September 1990).

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

HELDER HASTERT & FEE, Planners

Gail M. Uyetake
Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Helder Hastert & Fee, Inc.
33 Bishop Street, Suite 2100
Honolulu, Hawaii 96813
Telephone: (808) 538-4545
Telex: 538-4545



STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
719 SOUTH KING STREET
FOURTH FLOOR
HONOLULU, HAWAII 96813

BRIAN A. SUZUKI
Director

Dear Participant:

Attached for your review is a Draft Environmental Impact Statement (DEIS) which was prepared pursuant to the EIS law (Hawaii Revised Statutes, Chapter 343) and the EIS rules (Administrative Rules, Title 11, Chapter 200).

TITLE OF PROJECT: WAHIAWA LANDS DEVELOPMENT

LOCATION: ISLAND OAHU DISTRICT WAHIAWA
TAX MAP KEY NUMBERS: 7-1-001; por. 1; 5; 6; 7; 8; por. 11; por. 12; por. 13; por. 20; por. 21; 25; 26; 27; 28; 29; 30; 31; and 32.

AGENCY ACTION: _____ APPLICANT ACTION XX

YOUR COMMENTS MUST BE RECEIVED OR POSTMARKED BY (minimum 45 day comment period): March 25, 1993

PLEASE SEND ORIGINAL COMMENTS TO THE:

ACCEPTING AUTHORITY: Department of General Planning
ADDRESS: City and County of Honolulu
650 South King Street
Honolulu, HI 96813
CONTACT: Brian Suzuki PHONE: 527-6073

COPIES OF THE COMMENTS SHOULD BE SENT TO THE OFFICE OF ENVIRONMENTAL QUALITY CONTROL AND THE FOLLOWING:

PROPOSING AGENCY OR APPLICANT: Hawaiian Trust Company, Ltd.
ADDRESS: P.O. Box 3170
Honolulu, HI 96802-3170
CONTACT: Michael Angotti PHONE: 538-4545
CONSULTANT: Helder Hastert & Fee, Planners
ADDRESS: 733 Bishop Street, Suite 2590
Honolulu, HI 96813
CONTACT: Gail Uyetake PHONE: 545-2055

If you no longer need this EIS, please return it to OEQC. Thank you for your participation in the EIS process. Form # 91-2

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

OTHER REUSE
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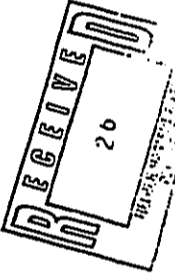


STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P.O. BOX 521
HONOLULU, HAWAII 96813

REF ID: A61588

FILE NO.: 93-428
DOC. NO.: 2440

MAR 25 1993



Keith W. Ahue, Chairperson
BOARD OF LAND AND NATURAL RESOURCES

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P.O. BOX 521
HONOLULU, HAWAII 96813

The Honorable Robin Foster
Chief Planning Officer
Planning Department
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Foster:

SUBJECT: Draft Environmental Impact Statement (DEIS) for the
Wahilawa Lands Development, Wahilawa, Oahu, TRK: 7-1-001;
pax. 1, 5-8, pax. 11-13, pax. 20-21, 25-29, pax. 30, 31, 32

The following are our Commission on Water Resource Management (CWRM)
comments for the subject development which supplement those contained in
our previous letter of March 12, 1993:

Commission on Water Resource Management

The project is situated in a water management area wherein the use of any
ground water for the project will be regulated by CWRM.

The developer contemplates the drilling of new wells off-site to provide
the estimated 2.9 mgd of potable-quality water needed for the project. As
noted in the DEIS, the sustainable yield of the underlying Wahilawa Aquifer
is 23.0 mgd, of which 22.5 mgd has already been allocated for use via
permits issued by the CWRM. This would leave an unallocated balance of
0.5 mgd that conceivably would be available for future allocation.

While it may appear that the unallocated supply would not be sufficient to
provide the project's 2.9 mgd requirement and that supplemental water
would need to be obtained from outside the local aquifer system, the
developer has indicated that enough water would, in fact, be available
within the Wahilawa Aquifer system for this project. The developer
contends, however, that to officially declare that water beyond the
unallocated 0.5 mgd amount is available, the Commission:

Mr. R. Foster

-2-

Doc. No.: 2440

"must first adjust (lower) the authorized water use of wells in the
Wahilawa Aquifer by reason of partial or total non-use for a period of
four continuous years or more. The Commission has taken such actions
in the Pearl Harbor Hydrologic Sector where existing authorized uses
and requested new water uses have exceeded the sustainable yield. As
shown in Figure 16, the actual water use (1991) reported to the CWRM
in the Wahilawa Aquifer totals 10,067 mgd, or 12.464 less than the
authorized use. Thus, ground water for the proposed project could
possibly be made available from the CWRM by applying for a new water
use permit." (Page 6-13 of DEIS)

The CWRM staff is aware of the water use situation and is reviewing the
current permitted allocation to determine whether an adjustment of the
allocation figure is in order. Ensuing CWRM action may result in an
increase in the unallocated aquifer supply, in which event, water might
become available for the Wahilawa Lands Development project. This
possibility, however, remains to be determined by the CWRM.

Water for the irrigation of the golf course fairways and landscaped areas
of the project, amounting to about 0.78 mgd, is proposed to be obtained
from ponded surface runoff mixed with effluent from the project's
wastewater treatment system. Here, the developer has indicated that they
would work with the Department of Health (DOH) to ensure that the DOH's 12
conditions applicable to all new golf course developments would be
compiled with.

Further, with respect to the project's drainage system, the developer is
reminded that any alteration of the banks of Kaulakaha Gulch or Wahilawa
Reservoir occasioned by the installation of the drainage works may require
a Stream Channel Alteration Permit (SCAP) from CWRM.

We will forward our Historic Preservation Division comments as they become
available.

Please feel free to call Steve Tagawa at our Office of Conservation and
Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,

John P. Keppeler
John P. Keppeler
for KEITH W. AHUE

cc: Michael Argotti
Gail Uytake
ODEC



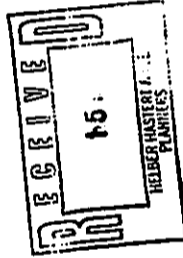
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 51
HONOLULU, HAWAII 96811

REF:OCEAN:SKK

MAR 12 1983

FILE NO.: 93-428
DOC. NO.: 2365

BUREAU OF LAND AND NATURAL RESOURCES
DIRECTOR
JOHN B. HOFFER &
SOCIETY, INC.
AGRICULTURE DEVELOPMENT
PROGRAM
PLANNING SERVICES
CONSULTATION AND
ENVIRONMENTAL SERVICES
LAND MANAGEMENT
SERVICES
FORESTRY AND WILDLIFE
MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT



The Honorable Robin Foster,
Chief Planning Officer
Planning Department
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Foster:

SUBJECT: Draft Environmental Impact Statement (DEIS) for the
Maui Land Development, Maui, Oahu, TMK: 7-1-001:
por. 1, 5-8, por. 11-13, por. 20 and 21, 25-29, por. 30, 31, 32

We have reviewed the DEIS information for the proposed development and
have the following comments:

Brief Description:

The project involves the development of approximately 918 acres of
Agricultural and Conservation District land adjacent to the north fork of
the Maui Reservoir. Most of the area is zoned agriculture and is prime
pipere land. The proposed development would consist of approximately
3,100 homes and would result in an increase in the residential population
of approximately 8,100 by the year 2010. Business and commercial centers
and a large golf course would also be incorporated in the project.

Division of State Parks

The Division of State Parks (DSP) comments that in their previous reviews
of the proposed project (EA and EISRN), they expressed some concerns about
the potential impacts of the project on Kukaniloko Birthstones State
Monument which is in the center of the project area. DSP believes that
adding an additional six acres to the existing 5-acre park site assists
with the preservation of the cultural and historical setting of this

Mr. R. Foster

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File No.: 93-428

sacred and culturally important site. In addition to providing necessary
open space between the site and modern development, the additional acreage
would provide areas away from the historic site for parking and
interpretive devices. However, it is still unclear how this additional
six acres would be added to the park, (i.e. donation, State purchase, or
management agreement).

Kukaniloko Birthstones is one of the most sacred sites on Oahu and
recognizing the strong cultural values associated with this site even
today, we need to preserve the integrity of the site by protecting the
significant view corridors. Although the adjacent development is
low-rise, it does not appear that the potential impacts on the view
corridors have been adequately addressed. DSP recommends that the
applicant conduct a view corridor study to determine the visual impact of
the multi-family housing development to the west of Kukaniloko on the view
corridors between Kukaniloko and Mount Kaala and Kolekole Pass. These
view corridors continue to be culturally significant and are important in
ongoing studies of Hawaiian astronomy. DSP also recommends that the
applicant consider the need for buffers between the modern development and
the historic site. Vegetation can be used to screen modern facilities and
reduce sound intrusions. The sound intrusions from the neighboring
roadway, community park, and housing will have a potentially adverse
effect on the sacred nature of the birthstones site that should be
addressed. A demarcation of the property line between the historic site
and the surrounding modern development is suggested. DSP recommends a
low, stacked rock wall that blends in with the environment and historical
nature of the site. Although a golf course can provide open space, DSP
would like to be assured that golf balls will not be found in the historic
site area.

As DSP initiates the planning for Kukaniloko Birthstones, they hope to
gain a better understanding of all the cultural and historical values
associated with the site and the associated preservation needs. In the
meantime, they encourage the applicant to protect the view corridors and
historical setting through sensitive and careful planning of the
facilities adjacent to Kukaniloko Birthstones.

Division of Water and Land Development

The Division of Water and Land Development comments that the DEIS should
address storm water runoff for the full development of this project and
its effect on the Kaula Stream flooding of Otake Camp in Waialua.

The DEIS should also include the water needs of the development and the
impacts of development on the high-level aquifer and aquifer recharge.

Division of Aquatic Resources

The Division of Aquatic Resources (DAR) comments that the project will markedly change the rural character of the area, and could therefore reduce the overall quality of the important recreational fishery in the Mahiawa Reservoir, by far the largest public fishing area in Hawaii. Escape from the pressures of urban living is an important value of recreational fishing, and a project that would urbanize a rural area would, almost by definition, degrade a public fishery. However, the planners seem to have made an effort to make the project compatible with existing recreational use of the reservoir. A park is identified as occupying the strip of land along the edge of the rock, fork, and a boat launching ramp is planned. A commitment to these elements of the plan would work to the advantage of all parties involved, because maintenance of a quality fishery and surroundings combined with improved accessibility to the reservoir would enhance the value of the entire project. Early communication between the developer and two private fishing organizations, the Hawaii Freshwater Fishing Association and the Association of Freshwater Sportfishing Anglers, active on the reservoir, could yield some helpful ideas from persons most familiar with the area and would help to avoid any future conflicts.

The golf courses may present some special risks to the reservoir environment because pesticide, herbicide, and fertilizer use is typically heavy for grounds maintenance. The slope for virtually the entire area is towards the reservoir, and pesticide-laden runoff may be directed into the reservoir during rainfall periods, if the grounds are improperly managed. Strict mitigation measures along with management protocols need to be incorporated in planning for the golf courses. Some of these are briefly mentioned in the DEIS, including the presence of some 30 acres of ponds.

The creation of ponds offers a prime opportunity for multiple family-oriented facilities, where children can be introduced to fishing under completely safe, controllable conditions. Fish populations should be maintained in the larger ponds for water quality purposes, and some of these ponds could be opened occasionally for children's fishing derbies or other purposes. This would enhance the primary residential quality of the development and is an area that could be profitably explored through communication and cooperation with the organized fishing groups identified above.

DAR is especially concerned about the added demands of the project on sewage treatment facilities in Mahiawa. There is a historical and well-documented problem of eutrophication of the Mahiawa Reservoir as a result of excessive nutrient input from secondary-treated sewage

discharged into the reservoir. The DEIS alludes to the removal of sewage discharges into the reservoir by 1994 or upgrading to tertiary treatment. A private tertiary treatment plant with a capacity of 4.61 MGD is a suggested alternative, but it is unclear whether this effluent would be discharged into the reservoir or used directly for irrigation purposes. Use of the effluent for irrigation of the golf course would be a sensible alternative. The problem of sewage treatment and disposal needs to be resolved before the project proceeds, but additional inorganic nutrient (phosphate and nitrate) loading of the Mahiawa Reservoir should be absolutely avoided. Although a reduction in nutrient input would lead to higher water quality and improved fish population balance in the reservoir, DAR would not object to the discharge of tertiary level treated wastewater into the reservoir if residual phosphates and nitrates did not exceed present loading rates and if a monitoring system was established at the plant to prevent the discharge of significant toxic or hazardous substances.

We will forward our Historic Preservation Division comments as they become available.

We have no other comments to offer at this time. Thank you for the opportunity to comment on this matter.

Please feel free to call Steve Tagawa at our Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,

John P. Keppeler

JOHN P. KEPPELER, II
Acting Director

cc: Michael Argotti
Gail Uyetake
OEDC

April 16, 1993

Mr. Keith W. Ahue
Chairperson
Board of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, HI 96809

Dear Mr. Ahue:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letters dated March 12, 22 25, and April 7, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses. A separate response letter has been sent to the Historic Preservation Division.

Division of State Parks (DSP)

We acknowledge your comment that the proposed addition of six acres to the existing five-acre Kukanihiko Birthstones State Monument site assists with the preservation of its cultural and historical setting. Upon your recommendation, we have conducted view corridor studies analyzing the visual impacts of the proposed development on views from Kukanihiko to the Waianae and Koolau Ranges. We reviewed preliminary findings of the analysis with DSP staff and have included a copy of the final report with this letter. The final report will also be included in the final EIS.

The view corridor analysis indicates that views of the Waianae and Koolau Ranges from Kukanihiko will not be significantly impacted by project development. Existing views of Kolekole Pass and Mount Kaala will not be impaired. Closer range views of the existing pineapple fields will be changed to urban uses. These views may be mitigated by landscaped screening at the periphery of the proposed 11-acre park and/or by screening the nearby land uses. Your recommendation to demarcate the property line of the historic site with a low, stacked rock wall is noted. The applicant will work with your department and other interested groups to plan an appropriate buffer and demarcation for Kukanihiko. The golf course will be designed according to City and County standards for safety distances for development and thus the potential for golf balls to enter the site is minimal. Based on resident concerns, we will also establish a potable water irrigation system in the areas immediately adjacent to Kukanihiko instead of the reused wastewater effluent (tertiary-level treatment) to be used for irrigation elsewhere.

The applicant is committed to continuing to work with DSP in planning for the lands adjacent to Kukanihiko and to adding six acres of adjacent lands to the State's park site.

Hilbert H. Hart
Director, Division of State Parks
111 Bishop Street, Suite 2740
Honolulu, Hawaii 96813
Tel: (808) 551-2611
Fax: (808) 551-2614

April 16, 1993
Mr. Keith W. Ahue
Page 2



Division of Water and Land Development

Stormwater Runoff. According to the civil engineering report prepared by the project civil engineer, Sam O. Hirota, Inc., and appended to the DEIS, the total runoff from the proposed development is estimated to be 3,136 cubic feet per second (cfs) or about nine percent more than the 2,890 cfs 10-year storm runoff from the undeveloped site. The proposed development will result in an increase of 346 cfs for a 10-year storm and not more than 450 cfs for a 100-year storm. Some of this flow will go into Poamoho Stream. The 100-year storm produces an estimated 17,900 cfs in Kaula Stream. According to the civil engineer, the quantity of runoff from the proposed development is insignificant compared to the flow in Kaula Stream, and therefore will not have a significant impact to Olake Camp.

Potable Water. As stated in Section 6.2 of the DEIS, the average daily potable water requirement for the proposed development is estimated by Board of Water Supply standards to be 2.9 million gallons per day (mgd).

According to the hydrological report for the project produced by Water Resource Associates, most of the groundwater recharge reaching the Wahiawa Aquifer originates as rainfall over the Koolau Range located approximately seven miles east of the project site. The sustainable yield for the Wahiawa Aquifer, as set by your Commission on Water Resource Management (CWRM), is 23 mgd. The DEIS states that the actual water use (1991) reported to the CWRM in the Wahiawa Aquifer is about 12 mgd less than the authorized use. According to comments by the CWRM in your March 25, 1993 letter, the Commission staff

"is aware of the water use situation and is reviewing the current permitted allocation to determine whether an adjustment of the allocation figure is in order. Ensuring CWRM action may result in an increase in the unallocated aquifer supply, in which event, water might become available for the Wahiawa Lands Development project. This possibility, however, remains to be determined by the CWRM."

The project hydrologist, Water Resource Associates, provided an analysis of the impact of the urbanization of the subject property on recharge and sustainable yield. The proposed project will affect 800 acres of land planted in pineapple and 118 acres of open land. The estimated loss of groundwater recharge due to removal of 800 acres from pineapple cultivation is 2.0 mgd and the estimated loss due to urbanization of 118 acres of open area is 0.15 mgd, for a total of 2.15 mgd. These estimates are based on the results of Shade (1991) Distribution of Ground Water Recharge, Oahu, Hawaii. However, the estimated 2.15 mgd loss of recharge will be offset to some extent by direct rainfall infiltration on some 333 acres of parks and recreation areas and the possible use of an estimated 0.78 mgd of treated wastewater effluent for irrigation. Further offset would occur from any use of holding ponds and dry wells for a portion of runoff. Any loss of recharge would proportionately affect sustainable yield of the higher-level aquifer. According to the project hydrologist, total offset could be on the order of 1.0 mgd, resulting in a loss of recharge of just over 1.0 mgd.

Heilber Hastert
Planners

April 16, 1993
Mr. Keith W. Ahue
Page 3

Division of Aquatic Resources

Fishery Resource. The applicant recognizes the concern that the project will change the character of the area by introducing urban development on what is now agricultural lands, and the potential impact of this change on the quality of the public fishery. The plan includes several features expected to mitigate adverse impacts to the Wahiawa Reservoir, which are noted in your letter (boat launch ramp, linear park along the north fork of the Reservoir, additional public access points). Upon your recommendation, we have discussed the proposed development with the Hawaii Freshwater Fishing Association and the Association of Freshwater Sportfishing Anglers, the major fishing organizations which use the reservoir. We will continue to consult with these groups as we move into the design process to assure that their concerns and recommendations are incorporated into the plan.

Golf Course. The golf course impact analysis prepared by William J. Walker, Ph.D. and included in the DEIS contains an Integrated Turf Management System for the proposed golf course, which provides an outline of general principles that should be incorporated at the site. Specific management of pesticides and fertilizers will be designed based on site specific conditions, as well as federal, state, and local regulations, as the design of the golf course is refined to mitigate runoff impacts to the reservoir.

Your suggestion of utilizing the golf course ponds for organized children's fishing events is appreciated. We will explore this possibility with the private fishing organizations and with DAR as planning for the development proceeds.

Wastewater Treatment. A portion of the treated effluent from the proposed 4.61 mgd tertiary treatment plant is planned to be used for irrigation of the golf course and other public landscaped areas. The balance of the effluent will be made available for irrigation use by neighboring agricultural operations or discharged into Wahiawa Reservoir. Any effluent discharged into the Reservoir will comply with State Department of Health standards.

Commission on Water Resource Management

We acknowledge that the CWRM staff is aware of the water use situation with respect to the Wahiawa Reservoir, and is reviewing the current permitted allocation to determine whether an adjustment of the allocation figure is in order.

We also acknowledge that any alteration of the banks of Kauhonahua Gulch or Wahiawa Reservoir occasioned by the installation of the drainage works may require a Stream Channel Alteration Permit from CWRM.


Heilber Hastert
Planners

April 16, 1993
Mr. Keith W. Ahue
Page 4

We appreciate your department's review of the DEIS. Your letters will be reproduced in the final EIS.

Sincerely,

HELBERT HASTERT & FEE, Planners



Gail M. Uyeake
Project Planner

Enclosure

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

KUKANILOKO BIRTHSTONES STATE MONUMENT VIEW CORRIDOR STUDY

Wahiawa Lands Master Plan
Prepared By: Helber Hastert & Fee, Planners
Prepared For: Hawaiian Trust Co., Ltd.

April 1993

I. PURPOSE

DLNR Division of State Parks (DSP) requested an analysis of view corridors from the State-owned Kukaniloko Birthstones State Monument to determine what, if any, visual impacts would be expected from the implementation of the proposed Wahiawa Lands Master Plan, and what, if any, mitigation would be required to mitigate visual impacts (DLNR letter dated March 12, 1993). The DSP request, and other concerns raised at community meetings, indicated a need to analyze potential impacts the proposed Wahiawa Lands development might have on view corridors from the State Monument. This study documents the analysis and findings of the view corridor study.

II. METHOD

A regional analysis was first conducted using the 1:62,500-scale USGS Island of Oahu map to determine the relevant view shed(s). The view sheds were determined to be confined to the east and west by the ridgelines of the Waianae and Koolau Ranges, respectively, to the north by local topographic ridges, and to the south by the trees along the north bank of Wahiawa Reservoir's North Fork. The view shed delineation was

subsequently validated with a site visit. Precise azimuths and elevations between Kukaniloko and major distant viewpoints such as Kolekole Pass and Mt. Kaala were determined using the 1:62,500-scale USGS map.

The City & County of Honolulu's 1:2,400-scale, 5-foot contour aerial contour maps (1969) were used to determine local azimuths, elevations and high points. The 1:6,000-scale Wahiawa Lands Concept Plan was used to determine proposed land use locations. No adjustments were made for possible changes in ground elevations due to site grading, as it was assumed that moderate changes would not affect the order-of-magnitude findings of the analysis. Maximum building heights of all structures were assumed to be 25 feet. It is possible that during subsequent design and planning phases, the building heights and locations may change. Any significant changes should be subjected to a similar level of visual analysis to assess potential impacts to Kukaniloko Park.

A series of six "worst case" or representative sight lines were chosen for further analysis, essentially characterizing 360 degree visual impacts to the State Monument. Worst case sight lines were identified where proposed development would be placed on local high points such

that proposed roof heights would extend into the view shed to a maximum extent.

Several common assumptions were made regarding the viewer's location. The viewer's "eyes" are assumed to be five feet above grade. All "views" were taken from the nearest point of the perimeter of the 0.5-acre parcel immediately surrounding the Birthstones (TMK 7-1-01:4) to the view object. This perimeter location was chosen over the perimeters of the State-owned five-acre parcel or the proposed 11-acre Kukaniloko Park as it would more accurately reflect potential impacts to the Birthstones, the principal feature of the monument.

To present the sightline analyses in a reproducible report format, it was necessary at times to compress the horizontal scale dimension on the distant views. This compression does not impair the analysis in any way, and graphic scales have been provided in all the sightlines to guide the reviewer.

III. DESCRIPTION OF EXHIBITS

Exhibit A

Exhibit A identifies the regional view sheds from Kukaniloko, based on the 1:62,500 USGS base information. Two view sheds are identified: the Waianae Range and the Koolau Range. As discussed, the western and eastern extent of the viewshed is limited by the respective mountain ridgelines. Views to the north and south are of open sky horizons, limited to the north by local ridgelines and to the south by trees along the north bank of Lake Wilson's North Fork. Exhibit A indicates the azimuths of three "distant" sight lines (2, 5 & 6), as well as the direction of Kolekole Pass and Mt. Kaala, identified by DSP and others as being important view corridors.

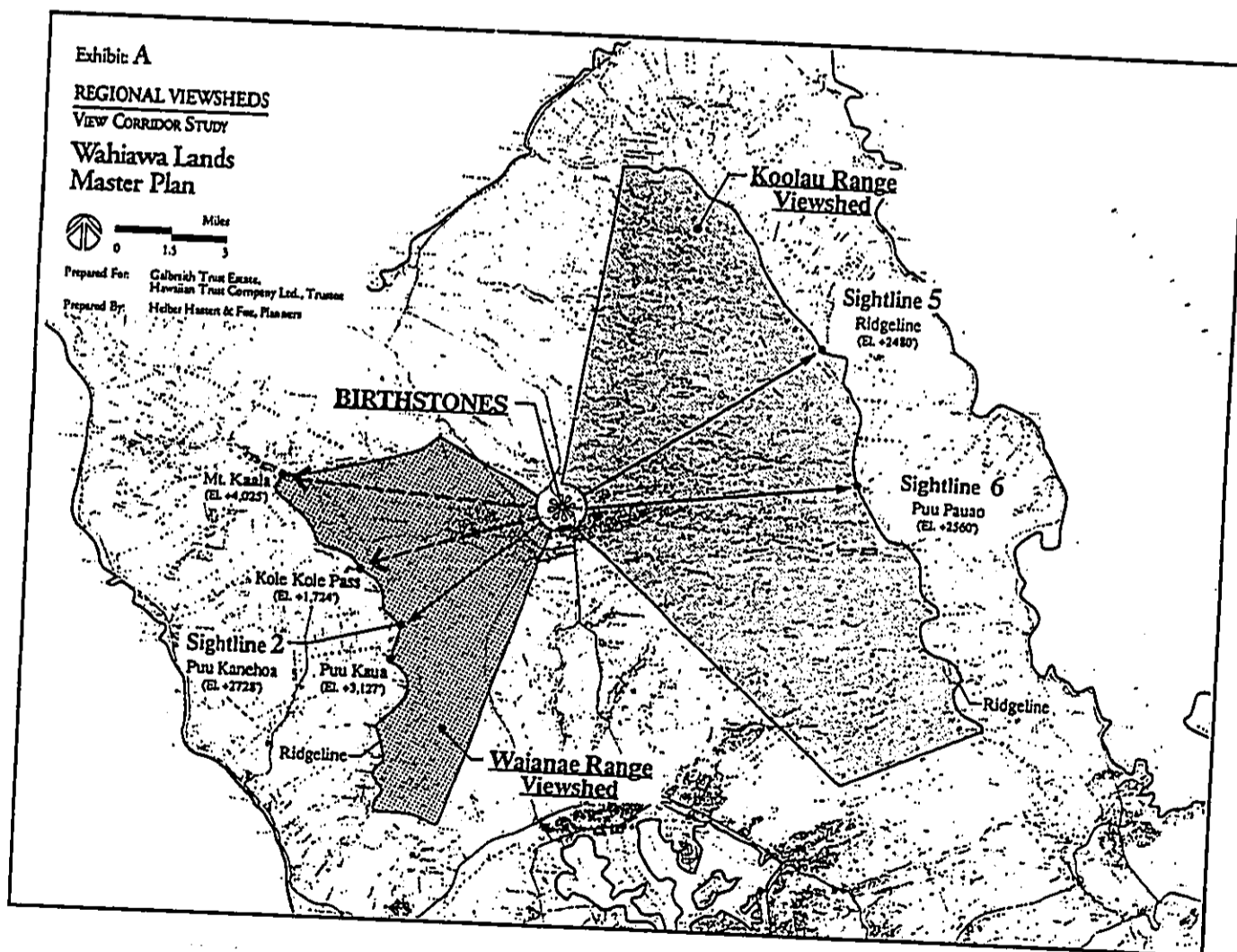


Exhibit B

Exhibit B incorporates the distant view sightlines 2, 5 & 6, the precise directions of Kolekole Pass and Mt Kaala, and three additional sightlines 1, 3 & 4, onto the Wahiawa Lands Master Plan base map. The latter group of sight lines are to the north and south, and are confined by local topography and trees.

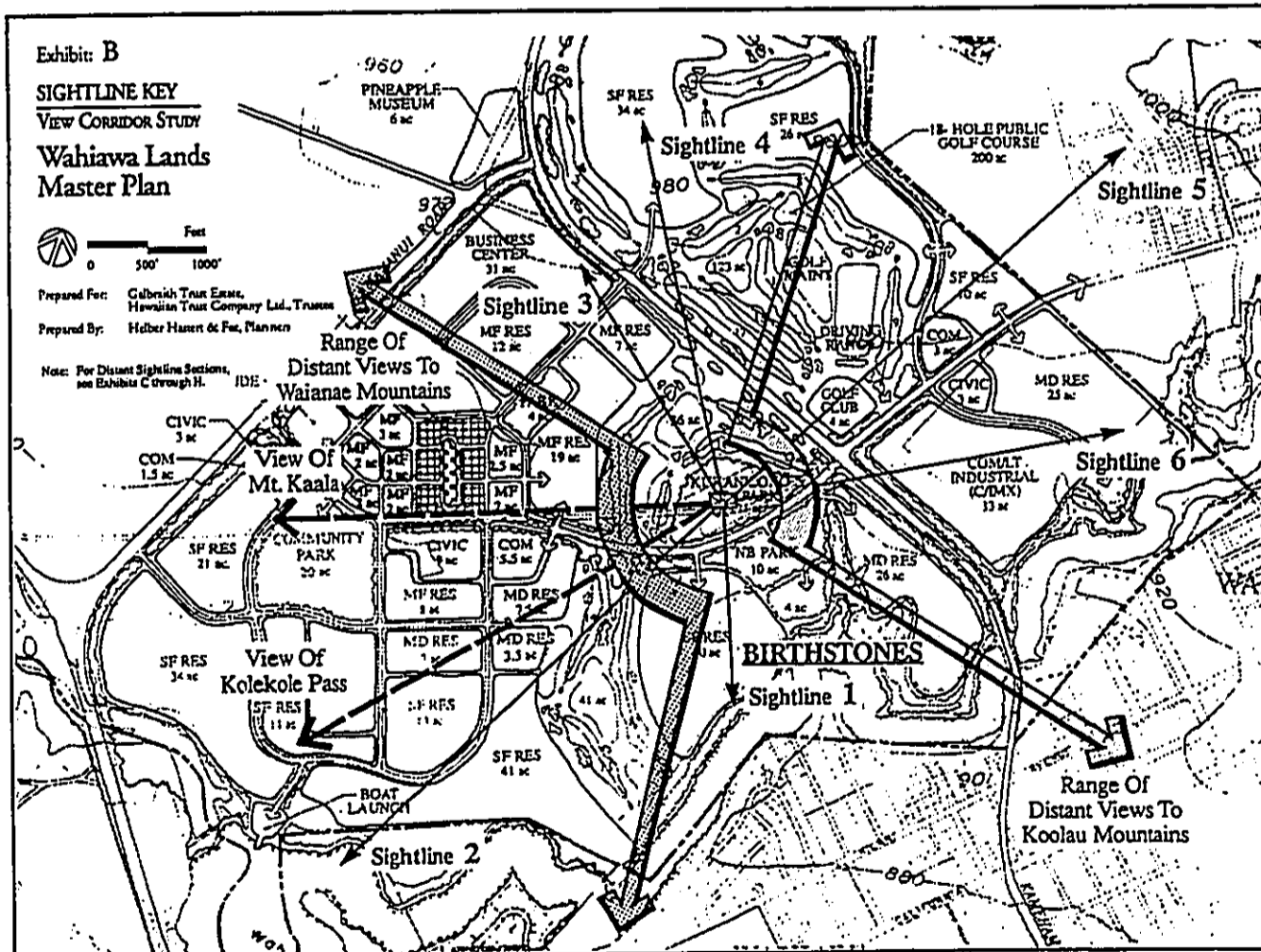
Exhibit C

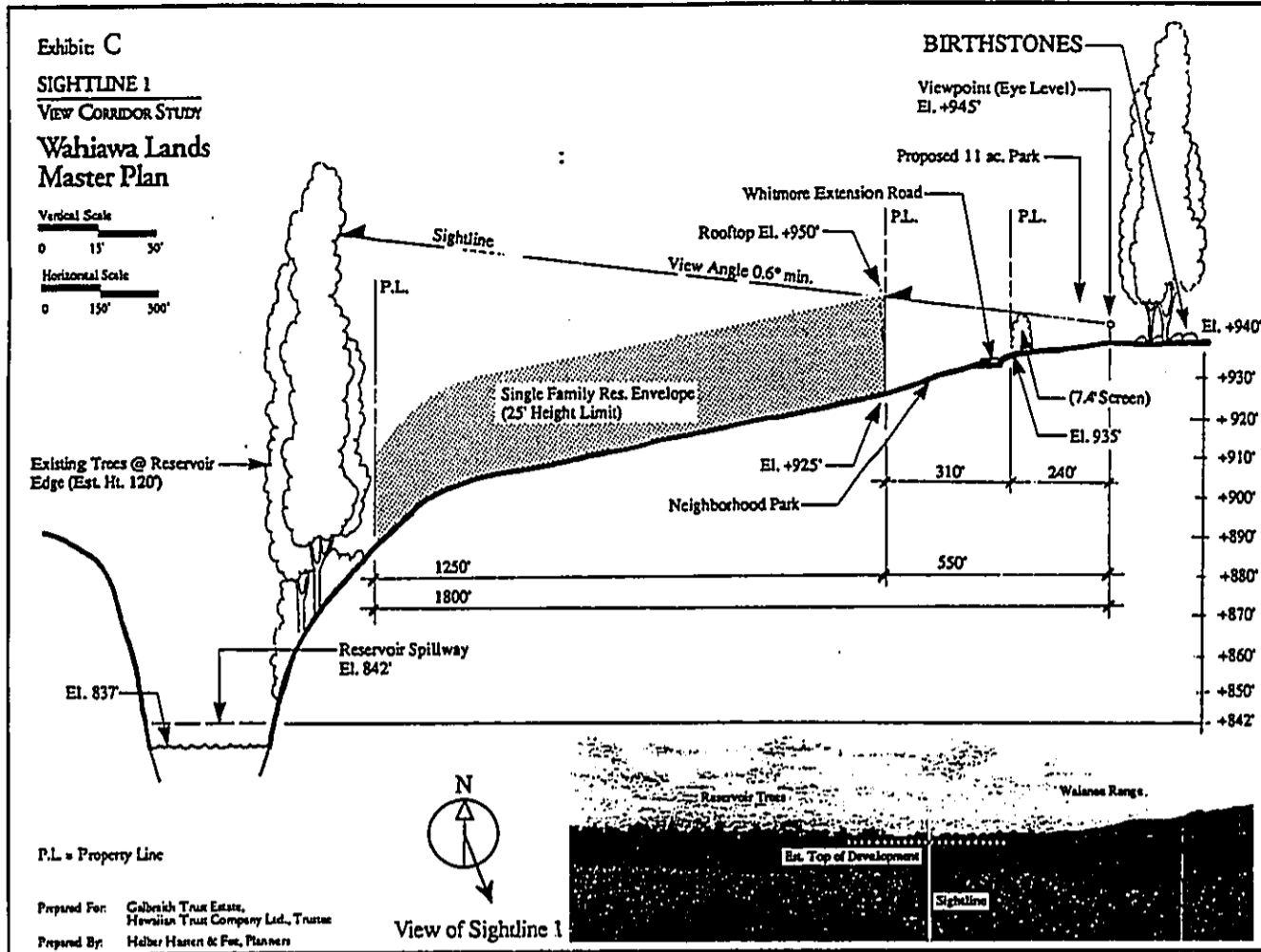
Exhibit C presents Sightline 1 to the south-southeast. The view azimuth was selected as it cuts through the closest proposed residential development to the State Monument (see Exhibit B). As seen in the photograph, the view is confined by the tall trees along the north bank of Wahiawa Reservoir's North Fork. The Waianae Range enters the view to the west. The sightline uses a 10x vertical scale exaggeration. The viewpoint (or viewer's eyes) are identified at elevation +945 feet at the SSE perimeter of the 0.5-acre parcel surrounding the Birthstones. The nearest structures would be 550 feet away and consist of single-family homes with a maximum roof height of 25 feet. The extension of Whitmore

Avenue and a Neighborhood Park are proposed to lie between the Monument and the single-family homes.

As seen in the sightline, the nearest edge of the single-family homes is the critical edge as the land slopes away from this point. The homes would obscure a significant portion of the trees lining the north bank of the North Fork as indicated, but would not obscure views of the horizon beyond. There are no views of either the Waianae or Koolau Ranges in this direction.

Mitigation of this view impact could be achieved by establishing a 7.4-foot high vegetative screen along the SSE perimeter of the proposed 11-acre Kukaniloko Park edge, in combination with planting and setback guidelines imposed on the referenced single-family residential area.





View Corridor Study
Wahiawa Lands Master Plan
Page 4

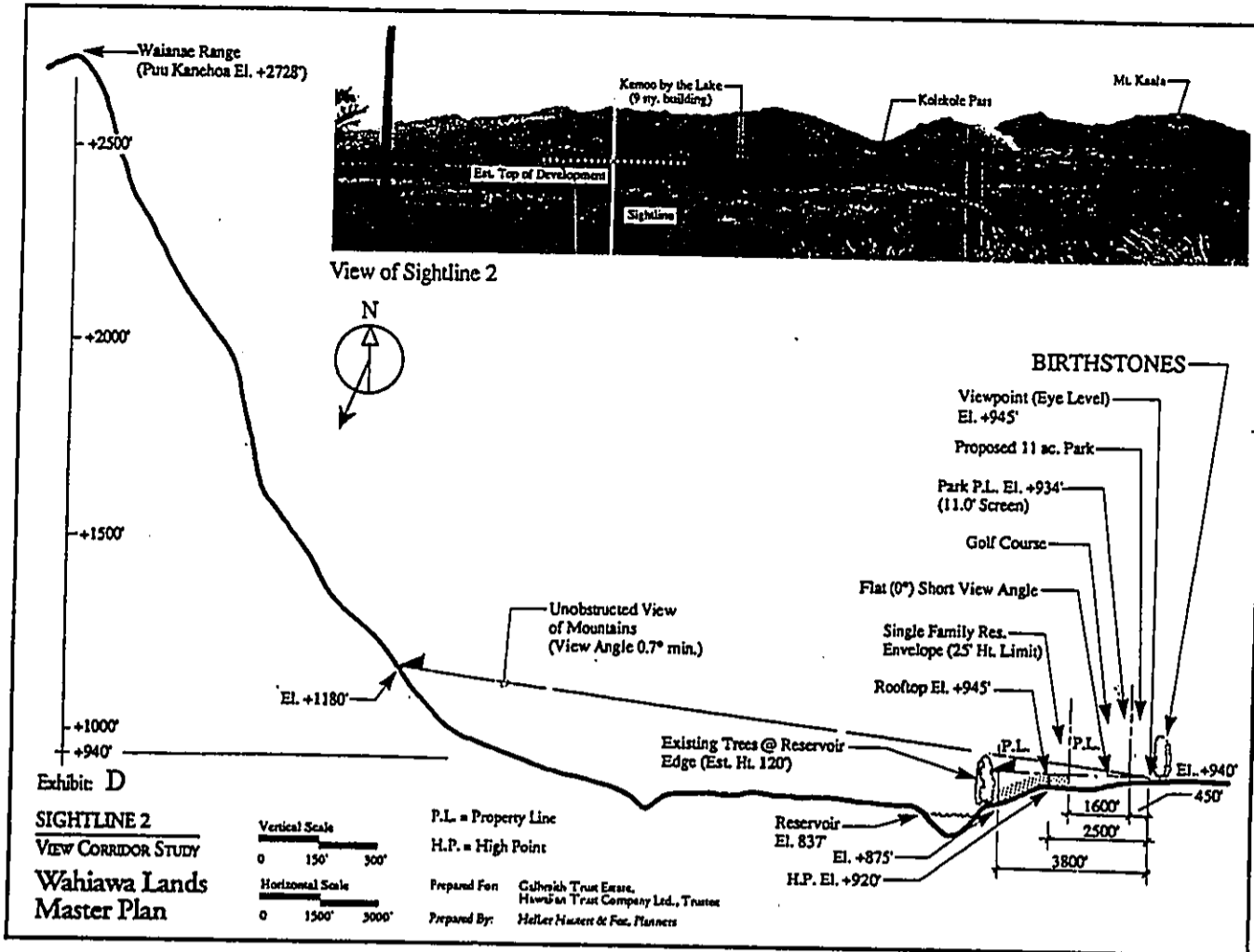
Exhibit D

Exhibit D presents Sightline 2, a distant view of the Waianae ridgeline to the west including Kolekole Pass and Mt. Kaala. The actual sightline azimuth was selected as it passed over a local project highpoint (el. +920 feet) proposed for single-family residential uses (see Exhibit B). Since the ground elevation of project lands in the direction of Kolekole Pass and Mt. Kaala are lower, and since there would be no significant changes in building heights in this general direction, analysis of the chosen sightline can be viewed as representative of that which might be expected in the Kolekole Pass and Mt. Kaala view corridors.

As shown in the sightline section, views of the lower Waianae Range foothills are obscured up to about the 1,180-foot elevation by the tall trees along the north bank of the North Fork (about a 0.7 degree view angle to the lowest visible spot on the Waianae Range). With regard to the local views, proposed single-family homes, with the nearest located approximately 2,500 feet from the viewer, would obscure most of the reservoir trees, although the roof heights are not projected to intrude above a 0.0 degree view angle, or above the reservoir tree back drop.

Golf fairways and the proposed Whitmore Avenue extension would occupy the area between the Monument and the homes.

Mitigation of the local view impacts could be achieved by establishing a 11.0-foot high vegetative screen along the SW perimeter of the proposed 11-acre Kukaniloko Park edge, perhaps in combination with planting and setback guidelines imposed on the single-family residential area, and strategic placement of trees and shrubs within the golf fairways and along the roadway right-of-way.



View Corridor Study
 Wahiawa Lands Master Plan
 Page 5

Exhibit E

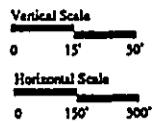
Exhibit E presents Sightline 3 to the northwest. The view azimuth was selected as it cuts through the closest proposed upslope residential development to the park in this direction (see Exhibit B). As seen in the photograph, the view is of an open horizon with pineapple occupying the foreground and with utility poles running along Kamehameha Highway in the distance. There are no views of either the Waianae and Koolau Ranges in this direction. The sightline section indicates the horizon is defined by a 952-foot ground elevation contour located about 250 feet away from the viewer with approximately three feet of pineapple cover which effectively acts as a buffer to distant views. The sightline identifies the Del Monte maintenance building located adjacent within the "pineapple triangle" intersections of Kamananui and Kaukonahua Roads with Kamehameha Highway. This structure, assumed to be approximately 20 feet tall and located about 2,700 feet from the viewer, lies just below the horizon at the five-foot viewing height. The sightline uses a 10x vertical scale exaggeration and identifies the viewer's eye level at elevation +950 feet at the NW perimeter of the 0.5-acre parcel surrounding the Birthstones. The nearest proposed structures would be

1,100 feet away and consist of two-story town homes with a maximum roof height of 25 feet. Proposed golf fairways would lie between the residential uses and the park.

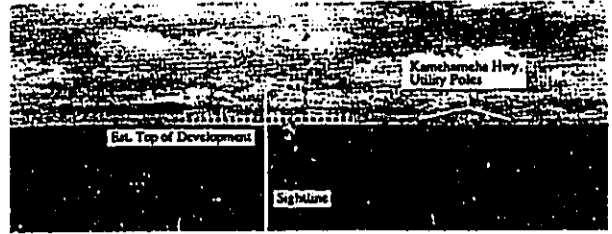
The nearest edge of the multi-family homes is identified as the critical edge due the local topographic features. The sightline section indicates that the horizon is now visible at about a 1.1 degree minimum view angle, and that the town homes would intrude into that horizon by about 0.2 degrees (for comparison purposes, a 0.5 degree angle would be similar to the distance between the upper and lower edges of a dime from over six feet away).

Mitigation of this view impact could be achieved by establishing a 3.5-foot high vegetative screen along the NW perimeter of the proposed 11-acre Kukaniloko Park edge, in combination with planting and setback guidelines imposed on the single-family residential area and strategic placement of trees and shrubs within the golf course.

Exhibit E
SIGHTLINE 3
 VIEW CORRIDOR STUDY
Wahiawa Lands
Master Plan

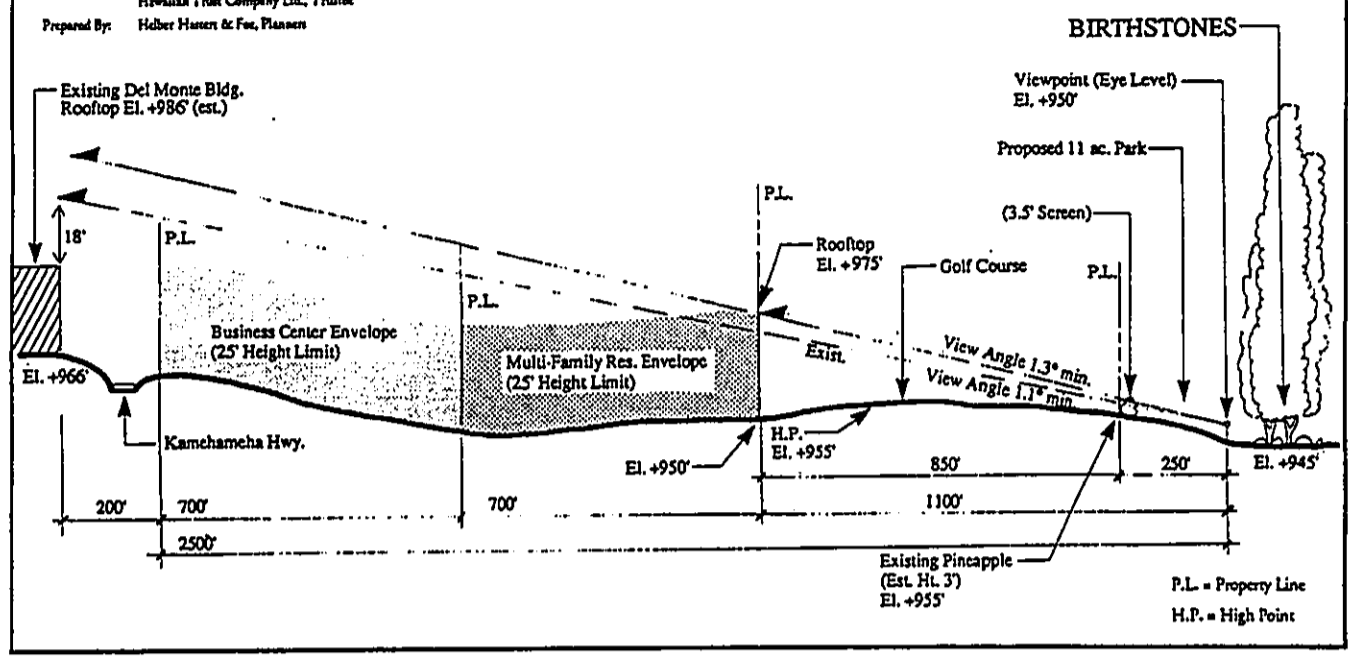


View of Sightline 3



Prepared For: Gührich Trust Estate,
 Hawaiian Trust Company Ltd., Trustee

Prepared By: Haber Hansen & Fox, Planners



View Corridor Study
 Wahiawa Lands Master Plan
 Page 6

Exhibit E

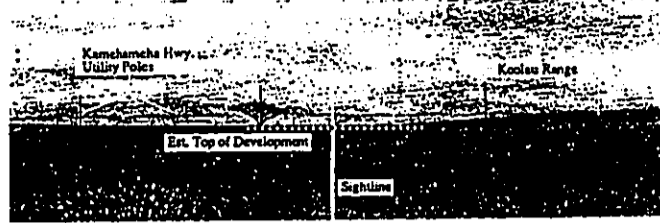
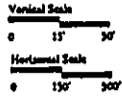
Exhibit F presents Sightline 4 to the north-northwest. The view azimuth was selected as it cuts through a local high point at elevation +997.5 feet (mauka of Kamehameha Highway) planned for single-family homes (see Exhibit B). As seen in the photograph, the view is similar to Sightline 3, consisting of an open horizon with pineapple occupying the foreground and utility poles running along Kamehameha Highway in the distance. The northern reaches of the Koolau Range begin to come into view to the east. There are no views of the Waianae Ranges in this direction. The sightline section indicates the horizon is defined by a 954-foot ground elevation contour with approximately 3 feet of pineapple cover, about 270 feet away from the viewer. The sightline uses a 10x vertical scale exaggeration and identifies the viewer at elevation +950 feet at the NNW perimeter of the 0.5-acre parcel surrounding the Birthstones. The nearest structures would be 2,300 feet away and consist of single-family homes with a maximum roof height of 25 feet. Proposed golf fairways would lie between the residential uses and the park.

The sightline section indicates that the horizon is now visible at about a 1.5 degree view angle, and that the proposed single-family homes would be below that horizon by about 0.2 degrees.

Once the existing pineapple cover is removed, continued mitigation of this view impact could be achieved by establishing a modest 2.2-foot high vegetative screen along the NNW perimeter of the proposed 11-acre Kukaniloko Park edge, in combination with planting and setback guidelines imposed on the single-family residential area and strategic placement of trees and shrubs within the golf course. A 100-foot landscaped setback is also planned along both sides of Kamehameha Highway to buffer adjacent urban uses.

Exhibit F
SIGHTLINE 4
 VIEW CORRIDOR STUDY
Wahiawa Lands Master Plan

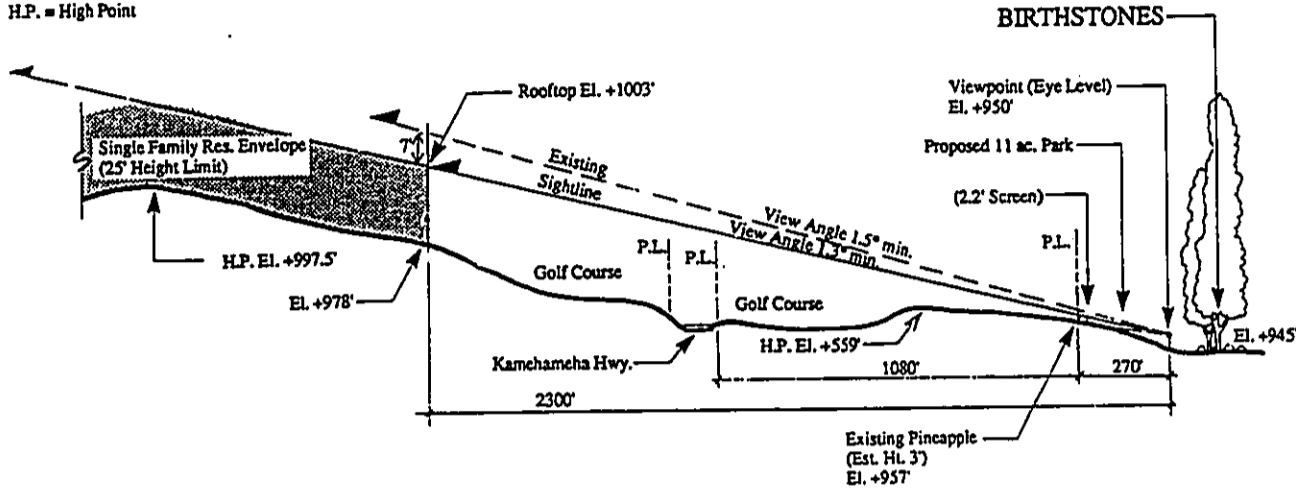
View of Sightline 4



Prepared For: Galbraith Trust Estate,
 Hawaiian Trust Company Ltd., Trustee

Prepared By: Heber Hartert & Fox, Planners

P.L. = Property Line
 H.P. = High Point



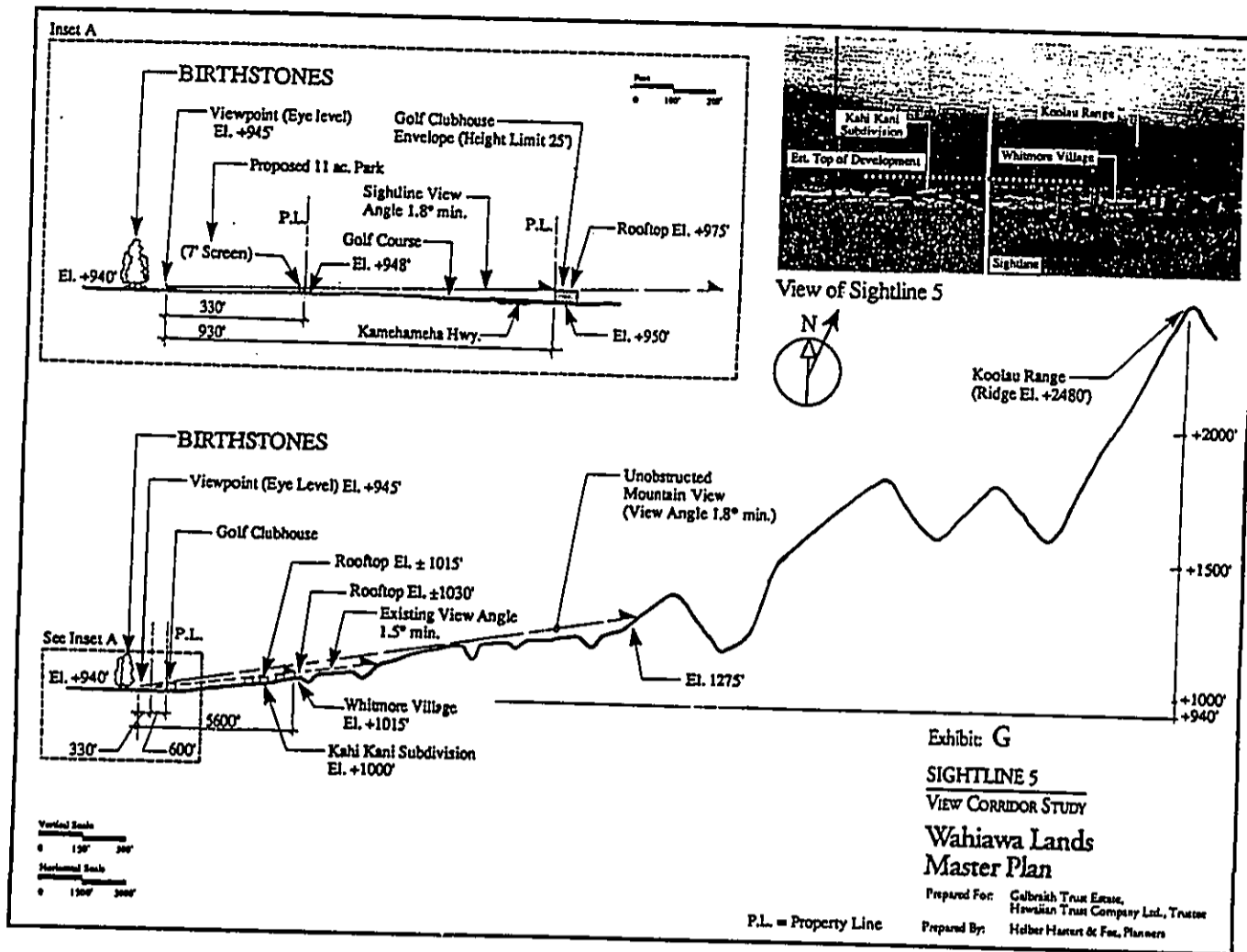
View Corridor Study
 Wahiawa Lands Master Plan
 Page 7

Exhibit G

Exhibit G presents Sightline 5 to the north-northeast. The view azimuth was selected as it cuts through the proposed golf club house planned for construction across Kamehameha Highway from the Park (see Exhibit B). As seen in the photograph, the view is occupied by the Koolau Range in the background with the urban uses of Whitmore Village and utility poles along Kamehameha Highway in the foreground. The main sightline uses a 10x vertical scale exaggeration while the inset uses equal vertical and horizontal scales. The sightline identifies the viewer at elevation +945 feet at the NNE perimeter of the 0.5-acre parcel surrounding the Birthstones. The nearest structure would be the golf course clubhouse about 930 feet away with a maximum roof height of 25 feet. Proposed golf fairways and Kamehameha Highway would lie between the clubhouse and the park.

The sightline section indicates that the Koolau Range above Whitmore Village is now visible above a 1.5 degree view angle, and that the proposed clubhouse would intrude into that horizon by about 0.3 degrees.

Mitigation of this view impact could be achieved by a 7.0-foot high vegetative screen along the NNE perimeter of the proposed 11-acre Kukaniloko Park edge, in combination with planting and setback guidelines imposed around the perimeter of the clubhouse area and strategic placement of trees and shrubs within the golf course. It should be noted that a 5.5-foot high screen would be needed to screen out the existing urban uses. A 100-foot landscaped setback is also planned along both sides of Kamehameha Highway to buffer adjacent urban uses.



View Corridor Study
Wahiawa Lands Master Plan
Page 8

Exhibit H

Exhibit H presents Sightline 6 to the northeast. The view azimuth was selected as it cuts through the proposed commercial/light industrial mixed use area (C/IMX) across Kamehameha Highway from the Park (see Exhibit B). As seen in the photograph, the view is similar to Sightline 5 in that it is occupied by the Koolau Range in the background with the urban uses of Whitmore Village and utility poles and traffic signal lights along Kamehameha Highway in the foreground. Wahiawa can be seen in the middle ground to the east. The main sightline uses a 10x vertical scale exaggeration while the inset uses equal vertical and horizontal scales. The sightline identifies the viewer at elevation +949 feet at the NE perimeter of the 0.5-acre parcel surrounding the Birthstones. The nearest structure would be the C/IMX area about 1,300 feet away with a maximum roof height of 25 feet. The proposed Whitmore Avenue extension and Kamehameha Highway would lie between the C/IMX area and the park.

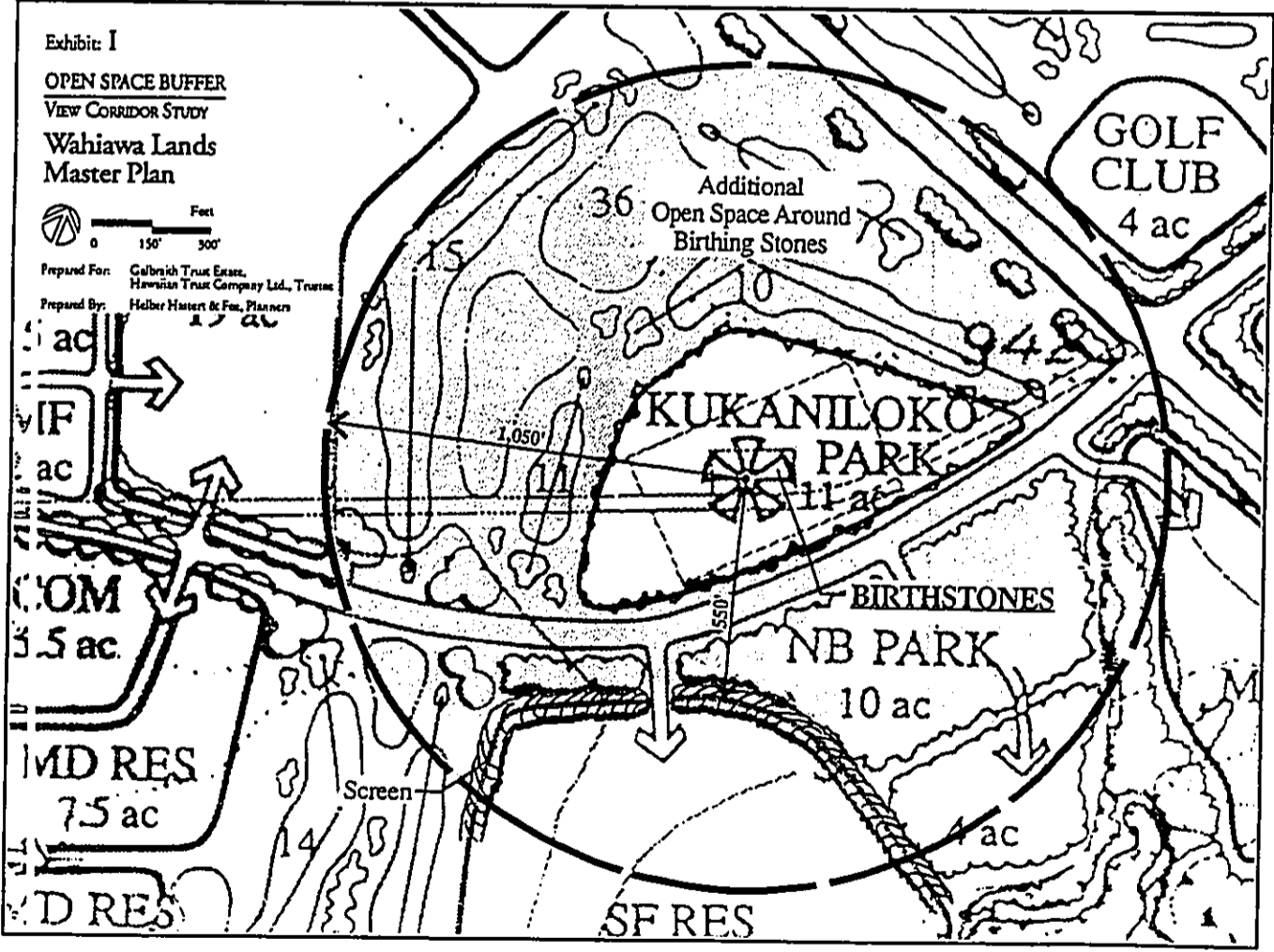
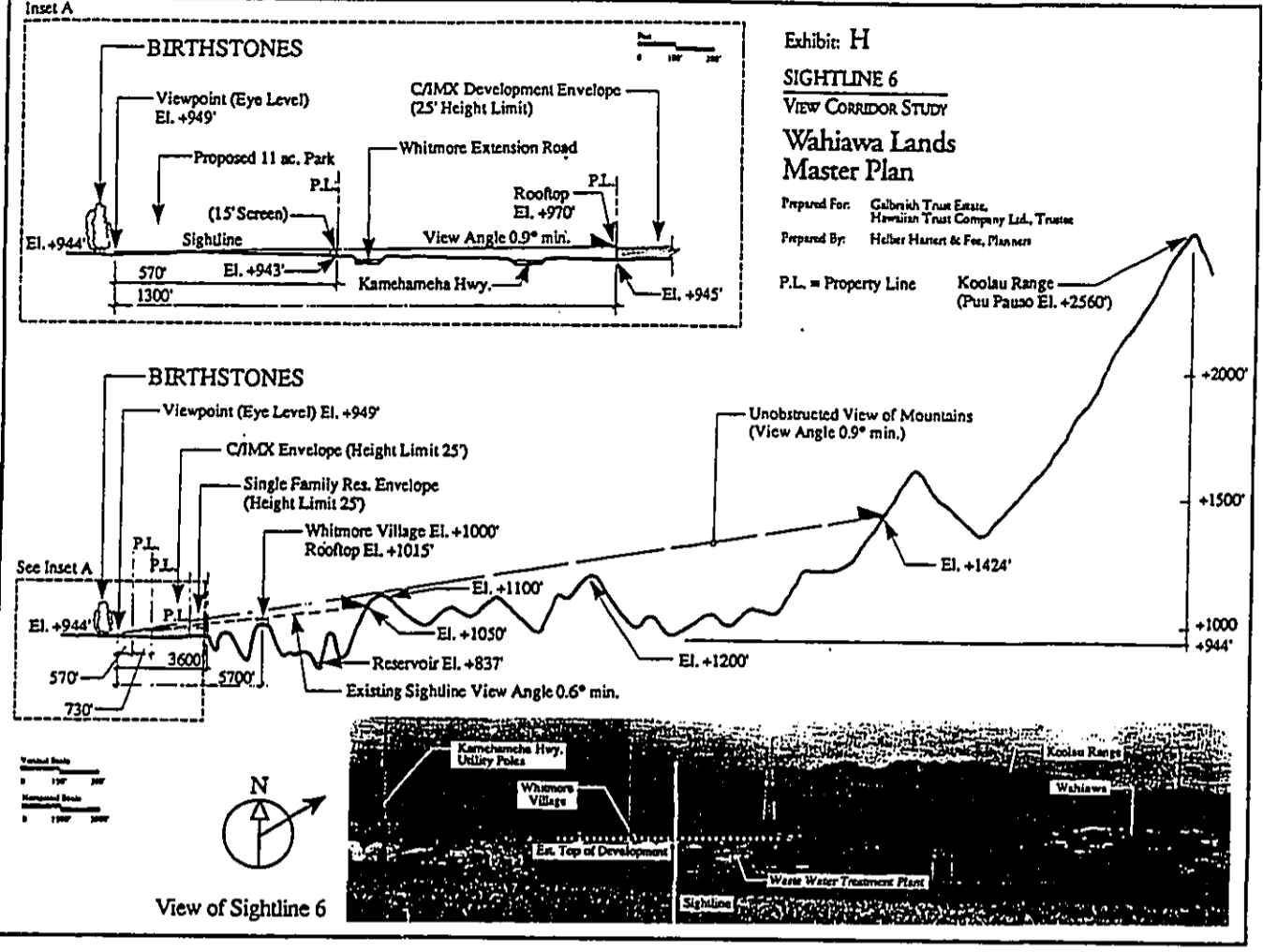
The sightline section indicates that the Koolau Range above Whitmore Village is now visible above a 0.6 degree

view angle, and that the proposed C/IMX area would intrude into that horizon by about 0.3 degrees.

Mitigation of this view impact could be achieved by a 15-foot high vegetative screen along the NE perimeter of the proposed 11-acre Kukaniloko Park edge, in combination with planting and setback guidelines imposed around the perimeter of C/IMX area, and the Whitmore Extension and Kamehameha Highway ROWs. It should be noted that a 12.6-foot high screen would be needed to screen out the existing urban uses. A 100-foot landscaped setback is also planned along both sides of Kamehameha Highway to buffer adjacent urban uses.

Exhibit I

Exhibit I presents a plan view of proposed land uses surrounding the proposed 11-acre Kukaniloko Park, illustrating the open space uses buffering the park comprising close to 100 acres. The buffering uses consist of parks, golf fairways and existing and proposed roadway rights-of-way.



IV. FINDINGS

A. Potential Impacts

The following table summarizes the various attributes discussed in the foregoing sightline analysis.

Sight Line	View Azimuth	View Content (near/far)	Degree Intrusion	Screen Height (feet)	Closest Structure (feet) (1)
1	SE	Wilson Res/ Open Horiz.	0.0	7.4	550/310
2	SW	Wilson Res/ Waianae Rngs	0.0	11.0	2050/1600
3	NW	Open Horiz.	0.2	3.5	1100/850
4	NNW	Open Horiz.	0.0	2.2	2300/2030
5	NNE	Whitmore/ Koolau Rngs	0.3	7.0 (2)	930/600
6	NE	Whitmore/ Koolau Rng	0.3	15.0 (3)	1300/730

Notes:
 (1) Distances from: 0.5-ac. Park/11-ac. Park
 (2) 5.5-foot screen needed for existing conditions
 (3) 12.6-foot screen needed for existing conditions

Based on the sightline analysis, potential impacts can be summarized as follows:

- o Distant views of the Waianae and Koolau Mountain Ranges will not be adversely impacted by the proposed development.
- o Approximately 0.2 degrees of open horizon would be obscured in the northwest direction.
- o Approximately 0.3 degrees of the lower Koolau Range would be obscured in the north-northwest direction.
- o Local views to the nearby pineapple fields and to the trees along Wilson Reservoir would be obscured by proposed development.

B. Mitigation Measures

The sightline analysis has determined that vegetative screening at the perimeter of the 11-acre Kukaniloko Park and within adjacent land uses would mitigate project impacts. Site grading within the Park boundaries should also be considered as a complementary approach to perimeter landscaping to mitigate against visual intrusions into the Park. A 100-foot landscaped setback is also planned along both sides of Kamehameha Highway to further buffer adjacent urban uses.



STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 4TH FLOOR
HONOLULU, HAWAII 96813

BOARD OF LAND AND NATURAL RESOURCES

DEPUTY

JOHN P. KERRICK, JR.
DONALD L. HARRIS

AGRICULTURE DEVELOPMENT
PROGRAM

AQUATIC RESOURCES
CONSERVATION AND
MANAGEMENT

ENVIRONMENTAL AFFAIRS
CONSERVATION AND
RESTORATION

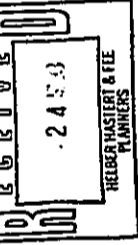
RECREATION AND
TOURISM

FORESTRY AND WILDLIFE
PRESERVATION

LAND AND NATURAL
RESOURCES

STATE PARKS
AND RECREATION

WATER AND LAND DEVELOPMENT



March 22, 1993

Mr. Brian Suzuki
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

LOG NO: 7816
DOC NO: 93031D15

Dear Mr. Suzuki:

SUBJECT: Draft Environmental Impact Statement (DEIS), Wahiawa Lands Development (File No. 93-428)
Wahiawa, O'ahu
TMK: 7-1-1: 5-8, 25, 26, 31, 32, por. 11, por. 29, por. 30

Thank you for the opportunity to review this project.

A draft archaeological inventory survey report for this project (Henry, Walker, and Rosendahl November 1992) is included as Appendix G of the DEIS. We have responded directly to the archaeologists with some minor requests for revisions, and we anticipate that the report will soon be acceptable.

These lands are adjacent to State Site 50-80-04-218, Kukanihiko, which was placed on the National Register of Historic Places in 1973 and has been actively preserved for over 60 years. The State has recently acquired title to about 5 acres of land at this site and long-term preservation and interpretive display will fall to the Department of Land and Natural Resources, Division of State Parks. We note that the master plan includes an 11 acre Kukanihiko Park, and we interpret this to mean that an additional six acres of Galbraith Trust Lands will be used as a buffer between development and the 5 acre parcel managed by State Parks. We further note that development plans for the lands adjacent to the 11 acres call for a golf course and, across the road, a community park and single family residences. We believe that low-rise, low-density development is appropriate for the area surrounding this important historic site, and that there is an opportunity to make considerable improvements to the present preservation and interpretive display of the site.

Brian Suzuki
Page 2

Except for the land immediately adjacent to Kukanihiko and some narrow strips of land along the Wahiawa reservoir and Poamoho and Tunnel Stream gulches, all of the project's lands are cultivated in pineapple. Predictably, no surface historic sites were found in the pineapple fields. A single historic site (50-80-04-4571) was found outside of the project area boundaries on the north bank of Poamoho Stream. Test excavations at various locations indicate that buried cultural deposits are also absent. When the minor revisions to the inventory survey report are complete we will conclude that survey techniques were sufficient to identify all historic sites, and that one historic site was identified (50-80-04-218). We will concur with the determination that site 218 is significant for its information content, as a good example of a sacred birth-stone site, and that it has traditional cultural significance to the Hawaiian ethnic group.

The applicant makes the commitment on page 4-26 and 4-27 to consult with the Division of State Parks and preservation groups to provide for the appropriate preservation and interpretive measures for Kukanihiko. We recommend that these consultations include consideration of view corridors from Kukanihiko that might be culturally significant.

If you have any questions please call Tom Dye at 587-0014.

Sincerely,

DON HIBBARD, Administrator
State Historic Preservation Division

TD:hek

c: Michael Angotti, Hawaiian Trust Company, Ltd.,
Gail Uyetake, Heiber, Hastert & Fee, Planners,

MAR 23 1993

Helber Hinstert
Planners

April 5, 1993

Mr. Don Hibbard, Administrator
State Historic Preservation Division
State of Hawaii
Department of Land and Natural Resources
33 South King Street, 6th Floor
Honolulu, HI 96813

Dear Mr. Hibbard:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 22, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

The final EIS will include the revised archaeological inventory survey report as an appendix.

We acknowledge your comment that low-rise, low-density development is appropriate for the lands adjacent to the proposed 11-acre Kukaniloko Park. We believe the plan as proposed, with golf course fairways, a public park and single-family residences adjacent to the proposed Kukaniloko Park, appropriately treats the surrounding area according to your comments.

The applicant is continuing to consult with the Division of State Parks (DSP) and preservation groups to provide for the appropriate preservation and interpretive measures for Kukaniloko. In response to DSP's recommendation and in consultation with DSP staff, we are preparing view corridor studies to determine the impact of the proposed surrounding uses on view corridors between Kukaniloko and Mount Kaala and Kolekole Pass. These results of this analysis will be included in the final EIS.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

HELBER HASTERT & FEE, Planners



Gail M. Uyeake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

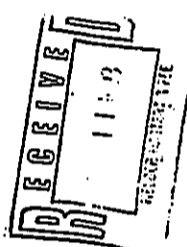
Helber Hinstert & Fee
Customer Center, 1911 Tower
233 Hui-jung Street, Suite 2700
Honolulu, Hawaii 96813
Telephone: 808-517-2155
Facsimile: 808-517-2150



STATE OF HAWAII
 DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
 LAND USE COMMISSION
 Room 311, Old Federal Building
 Honolulu, Hawaii 96813
 Telephone: 587-3322

ESTHER UEDA
 EXECUTIVE OFFICER

Mr. Robin Foster
 February 10, 1993
 Page 2



February 10, 1993

Mr. Robin Foster
 Chief Planning Officer
 Planning Department
 City and County of Honolulu
 650 South King Street
 Honolulu, Hawaii 96813

ATTENTION: Mr. Brian Suzuki

Dear Mr. Foster:

Subject: Draft Environmental Impact Statement (DEIS) -
Gaibraith Trust Estate Mahiava Lands Development

We have reviewed the subject DEIS received by our office on February 9, 1993 and have the following comments to offer:

- 1) We verify that the following parcels or portions of parcels are within the State Land Use Agricultural District: TMK: 7-1-01: 05, 06, 07, 08, 25, 26, 27, 28, 29, 31, 32; por. 1, por. 11, por. 12, por 13, por. 30.
- 2) We verify that the following portions of parcels are within the State Land Use Conservation District: TMK: 7-1-01: por. 20; and por. 21.
- 3) We understand that the applicant intends to submit a petition to the Land Use Commission to reclassify Agricultural District lands in the proposed project area to the Urban District. Also, it is our understanding that the applicant does not intend to reclassify the Conservation District lands that are in the proposed project area.
- 4) It appears that the lands intended to be reclassified from the Agricultural District will have been used for intensive agricultural purposes two years prior to the submission of a petition for district boundary

amendment, therefore, we suggest that the FEIS include a discussion on the standard under §15-15-19(4) of the IUC Rules.

We have no further comments to offer at this time.

Thank you for the opportunity to provide comments on this document. If you should have any questions in regards to this matter, please feel free to contact me or Leo Asuncion of my staff at 587-3826.

Sincerely,

Esther Ueda

ESTHER UEDA
 Executive Officer

EU:th

cc: DBEDT
 OEQC
 Mr. Michael Angotti
 Ms. Gail Uyetake



Helder Hastert
Planners

March 11, 1993

Ms. Esther Ueda, Executive Officer
State of Hawaii
Department of Business, Economic Development & Tourism
Land Use Commission
335 Merchant Street, Room 104
Honolulu, HI 96813

Dear Ms. Ueda:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated February 10, 1993 providing comments on the above-referenced DEIS. We acknowledge your verification of the following:

1. The following parcels or portions of parcels are within the State Land Use Agricultural District: TMK: 7-1-01: 05, 06, 07, 08, 25, 26, 27, 28, 29, 31, 32; por. 1, por. 11, por. 12, por. 13, por. 30.
2. The following portions of parcels are within the State Land Use Conservation District: TMK: 7-1-01: por. 20; and por. 21.

The applicant does intend to submit a petition to the Land Use Commission to reclassify Agricultural District lands in the proposed project area to the Urban District. The applicant does not intend to reclassify the Conservation District lands that are in the proposed project area.

The lands intended to be reclassified from the Agricultural District will have been used for intensive agricultural purposes for two years prior to the submission of a petition for district boundary amendment. The final EIS will include a discussion on the standard under Section 15-15-19(4) of the LUC Rules.

We appreciate your input in the review process. Your letter will be reproduced in the final EIS.

Sincerely,

HELDER HASTERT & FEE, Planners

Gail M. Uyetake
Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust

Helder Hastert & Fee, Inc. 211 Bishop Street, Suite 2700 Honolulu, Hawaii 96813
Telephone: (808) 531-1111 Fax: (808) 531-1111



JOHN WAIKAE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF HUMAN SERVICES
Planning Office
P.O. Box 339
Honolulu, Hawaii 96809

March 2, 1993

Mr. Brian Suzuki
Dept. of General Planning
City and County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813

Dear Mr. Suzuki:

Subject: DEIS, Wahiawa Lands Development, Wahiawa, Oahu

The proposed development will enlarge cumulative effects of population growth in west and central Oahu, which will in turn increase demands upon our facilities and services in the area. We will need to be kept informed of the project's development schedule, as details become available. This will assist us in scheduling the expansion of existing, or development of new, offices to meet increased caseloads.

There is growing recognition to the importance of interagency "networking" to improve coordination and integration of human service activities. A fundamental part of this effort is to meet the needs of the individual by serving the "family" as a whole, and to collocate compatible services for clients at sites that are easily accessible. The Town Center concept would support that effort. Unfortunately, public welfare and social services offices are often unwelcomed by area residents and experience the "not-in-my-back-yard (NIMBY)" phenomenon. The final EIS should discuss the availability of space for human service activities, within the project area.

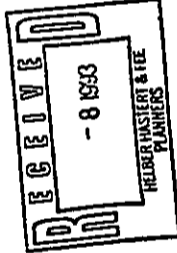
Sincerely,

Winona E. Rubin
Winona E. Rubin
Director

cc: Michael Angotti, Hawaiian Trust Co., Ltd.
Gail Uyetake, Helber Hastert & Fee, Planners

AN EQUAL OPPORTUNITY AGENCY

WINONA E. RUBIN
DIRECTOR
LYNN J. FALLER
DEPUTY DIRECTOR
LESLIE S. MATSUBARA
DEPUTY DIRECTOR



April 5, 1993

Ms. Winona E. Rubin, Director
State of Hawaii
Department of Human Services
Planning Office
P.O. Box 339
Honolulu, HI 96809

Dear Ms. Rubin:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 2, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

The applicant will continue to keep your department informed of the project's schedule as details become available.

We concur that the town center concept will promote accessibility to social services, civic facilities, and public recreation areas for residents of elderly and other special needs housing by providing space for human service activities near a population concentration. The final EIS will note that human service activities can be accommodated within areas designated for civic uses in the concept plan. We also encourage you to discuss projected office needs with the Department of Accounting and General Services which is presently planning a large State office complex in Wahiawa.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS. Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyetake

Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Helber Hastert & Fee
Governor Center, 1111 Tower
711 Bishop Street, Suite 2700
Honolulu, Hawaii 96811
Telephone: (808) 535-2055
Facsimile: (808) 535-3050



OFFICE OF STATE PLANNING

Office of the Governor
MAILING ADDRESS: P.O. BOX 2450 HONOLULU HAWAII 96824-2450
STREET ADDRESS: 250 SOUTH HOTEL STREET 4TH FLOOR
TELEPHONE: (808) 527-2846 FAX: 527-1800

Ref. No. P-4145

March 31, 1993

The Honorable Robin Foster
Chief Planning Officer
Planning Department
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Attention: Mr. Brian Suzuki

Dear Mr. Foster:

Subject: Galbraith Trust Estate Draft Environmental Impact Statement,
Mahiava Lands Development, Mahiava District, Oahu, Hawaii

We have reviewed the referenced document and have the following comments.

It is our understanding that the proposed project encompasses approximately 898 acres of land, excluding reservoir, some gulch lands and public rights-of-way. The owners are proposing a business center, commercial/industrial mixed uses and 3,100 residential units. The need for development of this magnitude should be substantiated in light of other approved and recommended projects in Central Oahu and Ewa.

We question the consideration of a major expansion of Mahiava before existing transportation problems are resolved. We assume that most future residents will commute to Honolulu and Ewa Job centers.

The impact to agriculture must also be clearly addressed since the proposal would result in the loss of approximately 800 acres in pineapple cultivation by Del Monte Fresh Produce.

Water quality, coastal water quality in particular, is a leading environmental issue. A relevant statutory Coastal Zone Management (CZM) policy as expressed in Chapter 205A, HRS, is to "promote water quality and quantity planning and management practices which reflect the tolerance of freshwater and marine ecosystems and prohibit land and water uses which violate State water quality standards."

With the change in land use from agriculture to urban, an increase in surface runoff will likely carry with it residential and commercial nonpoint sources of pollution such as pesticides, fertilizers, petroleum products and other hazardous materials.

The Honorable Robin Foster
Page 2
March 31, 1993

Water quality impacts are a concern given the proximity of the development to Mahiava Reservoir and Poamoho Stream. Measures exist to minimize runoff volumes and velocities and to treat pollutants entrained in runoff. We recommend that the applicant consider these types of measures to mitigate adverse impacts to freshwater and marine ecosystems. In addition, we suggest that water quality monitoring be considered as a further measure to minimize potential negative impacts.

Thank you for the opportunity to comment on this draft environmental impact statement. If you have any questions, please contact Harold Lao at 587-2883.

Sincerely,

Harold S. Masumoto
Harold S. Masumoto
Director

RECEIVED
93 MAR 5 AM 9:13
PLANNING DEPT.
& C HONOLULU

4/93-915



Daniel R. Wilson
Vice President
General Manager

Del Monte Fresh Produce (Hawaii) Inc.

April 6, 1993

Mr. Robin Foster
Chief of Planning
Planning Department
City and County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813

Dear Mr. Foster:

Local newspaper accounts of the proposed development of Galbraith Estate lands by Hawaiian Trust have indicated severe impacts on the Del Monte pineapple operation. I am writing this letter to be certain that your department clearly understands that these accounts have significantly overstated probable impacts. Del Monte believes that the commitments and agreements we have made with Hawaiian Trust relating to the Galbraith lands Master Plan will allow us to remain a major force in the Hawaii pineapple industry. The proposed development will remove approximately 900 acres of land from agriculture, currently used for the cultivation of pineapple, and convert it to predominately affordable housing. However, positive steps are being taken by Hawaiian Trust and Del Monte to mitigate any impact.

From the initiation of the development proposal, Del Monte's position has been very clear. The land is owned by the Galbraith Trust, not by Del Monte and, therefore, Del Monte is not in a position and would not take a position of dictating to the land owner what should occur with the land. Our lease with the Galbraith Estate expires at the end of 1994. We fully intend to renew the lease on the balance of the land not under development and, therefore, would not want to oppose the development of the land. That issue clearly is between Hawaiian Trust, the Galbraith heirs and the City and County of Honolulu.

The Hawaiian Trust group handling the development, led by Mike Angolli, has been very helpful in assisting Del Monte to find replacement land, and in working with Del Monte for a smooth and orderly transition from the development lands. Because of Hawaiian

P.O. Box 200, Kula, Hawaii 96793 • Telephone 808-821-1205 • Fax 808-821-1202

Page 3

April 20, 1993
Mr. Harold S. Masumoto

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

HELBERT HASTERT & FEE, Planners

Gail M. Uyetake

Gail M. Uyetake
Project Planner

Enclosure

cc: Mr. Michael Angolli, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

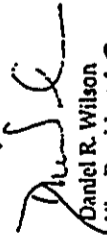
Mr. Robin Foster
April 6, 1993
Page Two

Trust's close coordination with Del Monte, we have been able to adjust our planting schedules and are not required to have replacement lands until 1999. As discussed in the EIS Report, we will require 400 acres of replacement land in 1999, and in 2001, 400 additional acres. It is necessary for us to obtain replacement land, but not necessarily in the short term. We have discussed additional land with two land owners, Robinson Trust and Campbell Estate, to identify potential replacement lands and both are interested in working with us.

To date, we have identified 400 acres of replacement land currently not in cultivation that could be used to replace the 1999 land requirement. Additional replacement land has been identified and may be available sooner, depending upon the continuation of Oahu Sugar at its current land use level.

We feel that with proper and close communication, agriculture and development can co-exist. Del Monte believes it has a solid future in pineapple from Hawaii as a supplier of premium, fresh pineapple to mainland markets. We are currently negotiating renewals of our leases with all land owners that will extend our leases through the expiration of the various Trusts, about 2007. I hope that this letter clarifies Del Monte's position regarding the impact of the development of the Galbraith lands.

Sincerely,



Daniel R. Wilson
Vice President & General Manager

DRW:djn

C&C/HawaiiTrust

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Helber Haster
Planners



April 12, 1993

Mr. Gordon Matsuoka
State Public Works Engineer
Department of Accounting and General Services
State of Hawaii
P.O. Box 119
Honolulu, HI 96810

Dear Mr. Matsuoka:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 3, 1993 (your reference No. (P)1118.3) responding to our request for comments on the above-referenced DEIS. We note that you have no comment to offer.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

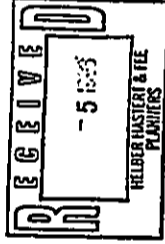
HELBER HASTERT & FEE, Planners

Gai M. Uyetake
Project Planner

cc: Mr. Michael Angoli, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

-(P)1118.3

MAR 2 1993



Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Attention: Mr. Brian Suzuki

Dear Gentlemen:

Subject: Wahiawa Lands Development
Wahiawa, Oahu
Draft EIS

Thank you for the opportunity to review the subject document. We have no comments to offer.

If there are any questions, please have your staff contact Mr. Ralph Yukumoto of the Planning Branch at 586-0488.

Very truly yours,

GORDON MATSUOKA
State Public Works Engineer

RY: jy Hawaiian Trust Company
cc: Helber Haster & Fee
OEQC

Telephone: 808.515.2015
Facsimile: 808.515.2024

233 Bishop Street, Suite 2200
Honolulu, Hawaii 96813

Helber Haster & Fee
Corporate Center, 19th Floor

JOHN WARREN
Governor



State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 So. King Street
Honolulu, Hawaii 96814-2512

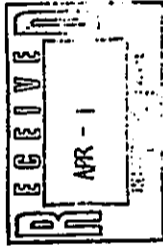
March 29, 1993

YUKIO KITAGAWA
Chairperson, Board of Agriculture

ELIMA A. PEANHAIA
Deputy to the Chairperson

FAX: 973-9813

Mailing Address:
P. O. Box 22159
Honolulu, Hawaii 96822-2159



TO: Robin Foster, Chief Planning Officer
Department of Planning
City and County of Honolulu

FROM: Yukio Kitagawa, Chairperson
Board of Agriculture

SUBJECT: Draft Environmental Impact Statement (DEIS)
Wahiawa Lands Development; Galbraith Trust Estate
Area: 918 Acres, Wahiawa District, Oahu, Hawaii
TMK: 7-1-01; 05; 06; 07; 08; 25; 26; 27; 28; 29; 31; 32;
por 01; por 11; por 12; por 13; por 20; por 21; and por 30.

The Department of Agriculture (DOA) has reviewed the subject document and offers the following comments.

Hawaiian Trust Company, Limited (applicant for Galbraith Trust Estate) requests an amendment to the Central Oahu Development Plan to permit the development of a residential community and related commercial and recreation facilities including a golf course within the 918 acre project site. The subject area is located north of Wahiawa town.

Soil information for the subject area and its surroundings, based on the Land Study Bureau (LSB), the Soil Conservation Service (SCS) Soil Survey, and the Agricultural Lands of Importance to the State of Hawaii (ALISH) system, indicates that the soils are well-suited for most agricultural activities.

The subject proposal would result in the urbanization of approximately 800 acres in pineapple by Del Monte Fresh Produce (Hawaii), Inc. (DEIS, pp. 5-13 and 5-14, and Appendix J, page 24). Of the two pineapple and two sugar plantations on Oahu, Del Monte utilizes the least amount of land and requires relatively little water for its production. In terms of agricultural importance to Oahu, Del Monte's pineapple operations provide the most employment and are economically the healthiest of the two pineapple companies (Appendix J, page vii). Due to its success in the marketing of the high-value fresh-chilled pineapple to the mainland, Del Monte's long range plans include an increase in production by increasing cultivated acreage. However, the loss of acreage to Del Monte's pineapple operation is



Robin Foster
March 29, 1993
Page 2

significant and if replacement lands are not found in a timely manner, Del Monte would be forced to shut down its Oahu plantation and replace it in Mexico or Guatemala (Appendix J, page x).

The subject area has all the ingredients for the pineapple industry to remain economically viable. According to the Pineapple Industry Analysis Number 6 (May 29, 1991, page 10), "fresh fruit is very viable and canning will at least for the near future have to be an integral component of the Hawaiian pineapple industry." Further, "Pineapple lands on Oahu must be maintained at the present acreage since current acreages are at the minimum economic unit and fresh fruit export is most economically feasible from Oahu" (page 13).

The Agricultural Impact Report (Appendix J) makes it clear that the replacement lands needed by Del Monte as a result of the subject project are most likely to come from lands now farmed by Oahu Sugar Company in upper Kunia, and therefore the major agricultural impact of the project will fall on Oahu Sugar rather than Del Monte. The loss of these 800 acres by Oahu Sugar would not conform to the company's preferred sequence for contracting the plantation, would contribute further to its difficulties due to loss of economies of scale, and would thus make its survival even more uncertain (pp. x-xiii).

Chapter 7 of the DEIS, "Alternatives to the Proposed Action," does not appear to address the alternative of relocating the entire project as proposed to another site, on marginal agricultural lands where the impact on pineapple or sugarcane production employment and income would be insignificant or negligible. The DOA believes that this alternative of another site must be explored in depth in order for the final EIS to be acceptable.

Finally, our Department believes that if the subject area is urbanized, the future integrity of the "prime" agricultural lands in the surrounding areas will also be threatened. The potential problems posed by noise, dust, and pesticides common with farming operations in the area will not be complementary to a residential community. Our Department reserves the right to comment on the Golf Course Impact Assessment (Appendix A) at such time as our Pesticides Branch is provided with a copy of the technical appendix for review.

Thank you for the opportunity to comment.

c: Michael Angolli, Hawaiian Trust Company, Ltd.
Gail Uyetake, Heiber, Hastert & Fee, Planners
Office of State Planning

Helber Hastert
Planner

April 7, 1993

Mr. Yukio Kitagawa, Chairperson
Board of Agriculture
State of Hawaii
Department of Agriculture
1428 S. King Street
Honolulu, HI 96814-2512

Dear Mr. Kitagawa:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 29, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

Chapter 200 of Title 11, Environmental Impact Statement Rules, requires a discussion of "any known alternatives...which could feasibly attain the objectives of the action." There are 2,200 acres north of Wahiawa owned by the Galbraith Trust. Of this, the 900 acres which are the subject of this Development Plan amendment application would be the most suitable for development. About 800 of the 900 acres are actually being farmed. According to recommendations made by the current lessee, Del Monte Fresh Produce (Hawaii), Inc., the development of the subject acreage would allow the continuation of operations on the remaining 1,300 acres in the most efficient manner. There are no other lands under the applicant's control which are suitable for this development and which would feasibly attain the objectives of the proposed action.


Regarding your concern about the future integrity of prime agricultural lands in the surrounding areas, we note that the Hawaii Right to Farm Act (HRS 165) limits the circumstances under which farming operations may be deemed a nuisance and therefore, will minimize the premature removal of adjacent lands from agricultural use.

A copy of the Golf Course Impact Assessment technical appendix is enclosed for review by your Pesticides Branch.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

HELBER HASTERT & FEE, Planners


Gai M. Uyeatake
Project Planner

Enclosure

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

16-1000, Honolulu, HI
Telephone: (808) 531-1200
Fax: (808) 531-1200





**DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM**

Central Office: Phone 725 South King Street, 15th Floor, Honolulu, Hawaii
Faxing Address: P.O. Box 2359, Honolulu, Hawaii 96804 Telephone: (808) 546-7406 Fax: (808) 546-2377

JOHN MUMBE
Director
MARTI HANNEMANN
Deputy Director
BARBARA KIM EMMERTON
Deputy Director
BOCK LEGGID
Deputy Director
LAKERS YOSHIMASA
Deputy Director

March 18, 1993

Mr. Brian Suzuki
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Suzuki

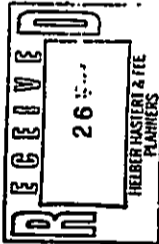
Draft Environmental Impact Statement (EIS) - Wahiawa Lands Development

The draft EIS states that "the design and construction of the proposed facilities will incorporate energy-saving designs and devices." In this regard, we call your attention to the Model Energy Code, developed under the auspices of this department. We urge that you use the code as a guide for the development of this project. For a copy of the code and any details, please contact Mr. Howard Wiig at 587-3811. An Overview of the code is attached for your information.

Sincerely,

Mufi Hannemann
Mufi Hannemann
Director

cc: Hawaiian Trust Company
Helber Hastert & Fee, Planners
Energy Division



April 16, 1993

Mr. Mufi Hannemann
Director
Department of Business, Economic Development & Tourism
P.O. Box 2359
Honolulu, HI 96804

Dear Mr. Hannemann:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 18, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

We have obtained a copy of the Hawaii Model Energy Code Overview from your department and will forward it to the developer to use as a guide for the development of this project.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyelake
Gail M. Uyelake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Helber Hastert & Fee
Consumer Center, P.H.H. Tower
511 Bishop Street, Suite 2500
Honolulu, Hawaii 96813
Telephone: (808) 546-2000
Telex: 515-2010

JOHN WARD
DIRECTOR OF HEALTH



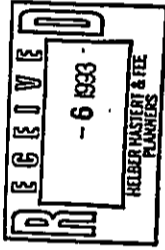
STATE OF HAWAII
DEPARTMENT OF HEALTH

P. O. BOX 3175
HONOLULU, HAWAII 96813

March 23, 1993

JOHN C. LEWIN, M.D.
DIRECTOR OF HEALTH

In reply, please refer to:
92-325/epo



Planning Department
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813
Attn: Mr. Brian Suzuki

Dear Sir:

Subject: Request for comments
Draft Environmental Impact Statement (DEIS)
Wahiawa Lands Development (Galbraith Trust Estate)
Wahiawa, Oahu
THK: 7-1-01: Various Parcels

Thank you for allowing us to review and comment on the subject document. We have previously commented on the pre-assessment document (10/16/92) and the EISPH - Environmental Assessment (12/9/92), however, we have no comments to offer on this DEIS.

Very truly yours,

John C. Lewin

FOR JOHN C. LEWIN, M.D.
Director of Health

c: Hawaiian Trust
Helbert Hastert + Fee

Helber Hastert
Planners

April 12, 1993

Mr. John C. Lewin, M.D.
Director of Health
Department of Health
State of Hawaii
P.O. Box 3378
Honolulu, HI 96801

Dear Dr. Lewin:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 23, 1993 (your reference No. 92-325/epo) responding to our request for comments on the above-referenced DEIS. We note that you do not have additional comments on the document.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Helber Hastert
Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Helber Hastert & Fee
Greenway Center, PHH Tower

233 Bishop Street, Suite 2790
Honolulu, Hawaii 96811

Telephone: 808.515.2033
Facsimile: 808.515.2030

Helber Haster
Planners



April 12, 1993

Mr. Joseph K. Conant
Executive Director
State of Hawaii
Housing Finance and Development Corporation
677 Queen Street, Suite 300
Honolulu, HI 96813

Dear Mr. Conant:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 29, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

The final EIS will include a discussion of Policies A(3) and B(3) of the State Housing Functional Plan as they relate to the proposed development.

The applicant will continue to consult with your department and the City and County of Honolulu to formulate an affordable housing program for the project. We would welcome your support in the forthcoming legislative review process.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

HELBER HASTER & FEE, Planners

Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Helber Haster & Fee
Executive Director, PHH Tenors

514 Bishop Street, Suite 2700
Honolulu, Hawaii 96813

Telephone: 808-535-2055
Facsimile: 808-535-2058

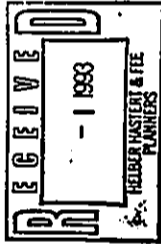
JOSEPH K. CONANT
EXECUTIVE DIRECTOR

WE WOULD REFER TO:
93:PPE/1480



STATE OF HAWAII
DEPARTMENT OF BUDGET AND FINANCE
HOUSING FINANCE AND DEVELOPMENT CORPORATION
677 QUEEN STREET, SUITE 300
HONOLULU, HAWAII 96813
FAX (808) 547-6600

March 29, 1993



Mr. Brian Suzuki
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Suzuki:

Re: Draft EIS for Wahiawa Lands Development, Galbraith Trust Estate

We have reviewed the subject draft EIS and offer the following comments.

Policies A(3) and B(3) of the State Housing Functional Plan seek to ensure that housing projects provide a fair share of affordable homeownership and rental housing opportunities.

We are pleased to see that the applicant is proposing to make 60 percent of the residential units available in the affordable range, as well as provide elderly and/or other special needs rental housing. We look forward to working with the applicant and the City and County of Honolulu to formulate an affordable housing program for the proposed project.

Thank you for the opportunity to comment.

Sincerely,

JOSEPH K. CONANT
Executive Director

c: Mr. Michael Angotti
Ms. Gail Uyetake

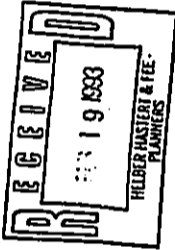
JOHN WAHILES
GOVERNOR
STATE OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P. O. BOX 1879
HONOLULU, HAWAII 96805

HOALIKU L. DRAKE
CHAIRMAN
HAWAIIAN HOMES COMMISSION

February 17, 1993



Mr. Brian Suzuki
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Suzuki:

Subject: Draft Environmental Impact Statement (EIS):
Galbraith Trust, Wahiawa Lands Development

The Department of Hawaiian Home Lands (DHHL) is pleased to note that the January 1993 draft EIS includes a water master plan for the proposed project which describes how much potable water will be needed to serve the proposed development and how this water will be supplied (Appendix B).

The applicant appears to have provided information relative to the proposed action which adequately satisfies the requirements of the EIS law (Chapter 343, Hawaii Revised Statutes) and guidelines prepared by the Office of Environmental Quality Control. We have no objections to acceptance of the draft EIS as presented.

Should you have any questions, contact Mr. Ben Henderson of our Planning Office at 586-3838.

Warmest aloha,
Hoaliku L. Drake
Hoaliku L. Drake, Chairman
Hawaiian Homes Commission

HLD:BH:JC:asy

cc: Office of Environmental Quality Control
Michael Angotti, Hawaiian Trust Company, Ltd.
Gail Uyetake, Helber Hastert & Fee, Planners

/2558L.2

Helber Hastert
Planners

February 22, 1993

Ms. Hoaliku L. Drake, Chairman
Hawaiian Homes Commission
State of Hawaii
Department of Hawaiian Home Lands
P.O. Box 1879
Honolulu, HI 96805

Dear Ms. Drake:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter to the Planning Department dated February 17, 1993 regarding the above-referenced EISPN. We note that you have no objections to the acceptance of the DEIS as presented.

We appreciate your prompt review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyetake

Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust

Helber Hastert & Fee
Governance Center, 1111 Tower

713 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Telephone: 808 515-2163
Facsimile: 808 515-2050

3/93-704



STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

200 SOUTH KING STREET
FOURTH FLOOR
HONOLULU, HAWAII 96813
TELEPHONE 808/546-4106

March 18, 1993

Mr. Robin Foster
Chief Planning Officer
City and County of Honolulu
Department of General Planning
650 South King Street, 8th Floor
Honolulu, Hawaii 96813

Attn: Mr. Brian Suzuki

SUBJECT: WAHIAWA LANDS DEVELOPMENT, WAHIAWA, OAHU

Dear Mr. Foster,

Thank you for the opportunity to review the Draft Environmental Impact Statement (DEIS) for the above project. We have no comments to offer at this time.

Sincerely,

Brian J. Choy
Brian J. J. Choy
Director

BC:km

Helber Hasterl
Planners

April 14, 1993

Mr. Brian J. J. Choy
Director
Office of Environmental Quality Control
State of Hawaii
220 South King Street, Fourth Floor
Honolulu, HI 96813

Dear Mr. Choy:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 18, 1993 responding to our request for comments on the above-referenced DEIS. We note that you have no comments to offer at this time.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS. Sincerely,

HELBER HASTERL & FEE, Planners

Helber Hasterl
Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Helber Hasterl & Fee
Greenstone Center, VIII Tower
Honolulu, Hawaii 96813

233 Bishop Street, Suite 2200
Honolulu, Hawaii 96813

Telephone 808/545-2055
Facsimile 808/545-2051

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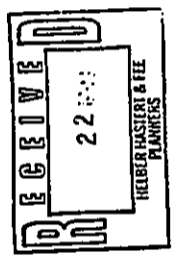
JOHN WILKIE
Governor
MAJOR GENERAL EDWARD V. RICHARDSON
Director of Civil Defense
ROY C. PRICE, SR.
Vice Director of Civil Defense



STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE DIRECTOR OF CIVIL DEFENSE
319 DIAMOND HEAD ROAD
HONOLULU, HAWAII 96813



PHONE (808) 734-2161



March 19, 1993

TO: Mr. Brian Suzuki
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

FROM: *Roy C. Price, Sr.*
Vice Director of Civil Defense

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE;
MAHIANA LANDS DEVELOPMENT

We appreciate this opportunity to comment on Mahiama Lands Development; Wahiawa District, Oahu, Hawaii, project area THK: (1)-7-1-001: 005; 006; 007; 008; 025; 026; 029; 031; 032; por. 011; por. 012; por. 13; por. 020; por. 021; & por. 030.

We do not have negative comments specifically directed at this draft environmental impact statement. However, we do have a proposal for a siren alerting system for the area of application. The proposed subdivision is located in an area not covered by an existing warning device (siren or siren simulator). We propose that a solar powered electronic siren and siren support infrastructure be purchased and installed by the developer to alert residents of an impending or actual event that threatens the subdivision. This siren must be "Omni directional," have a minimum output of 121 DB and be compatible with the existing civil defense siren system. The proposed siren requires a 250-foot radius buffer zone in which there is no residential building. The suggested location of this siren is annotated in red near the "15th Tee" alongside the proposed roadway as shown in the "Concept Plan," Figure 4, pages 2-7. Just as parks, schools, fire hydrants, sidewalks and underground/overhead utilities are planned as integral parts of subdivisions, so must emergency warning systems be planned for the safety of communities.

Mr. Brian Suzuki
March 19, 1993
Page 2

Chapter 4, "Assessment of Existing Conditions and Probable Impacts: Physical Environment," paragraph 4.2, Geology, Physiography and Topography, addresses the elevation (c.850' elevation to c. 950' elevation) and slopes/gullies (< 5 per cent to > 15 percent). The impact of these terrain features on high winds (acceleration and funneling) should be addressed. The results of this investigation could dictate the type of structures necessary to withstand the force of winds that could result from orographic amplification.

Additionally, the type of structures provided for the school, park facilities or community center should be built to withstand the force of winds addressed in the paragraph above and surveyed for use as shelters for people at risk during hazards. With the projected population growth, Chapter 1, "Introduction and Summary," paragraph 1.3, Summary of Probable Impacts and Mitigation Measures, Demographics and Compatibility with Surrounding Communities, of about 8100 by the year 2010, serious consideration must be given for safe structures to shelter area residents without exacerbating the existing number of shelter spaces available for the Mahiama area.

Our SCD planners and technicians are available to assist in determining the technical specifications of the siren and siren support infrastructure. Please have your staff call Mr. Hei Mishihara of my staff at 734-2161.

Enc.

c: Mr. Michael Angotti
Hawaiian Trust Company, Ltd.
✓ Ms. Gail Uyetake
Heiber Hastert & Fee, Planners

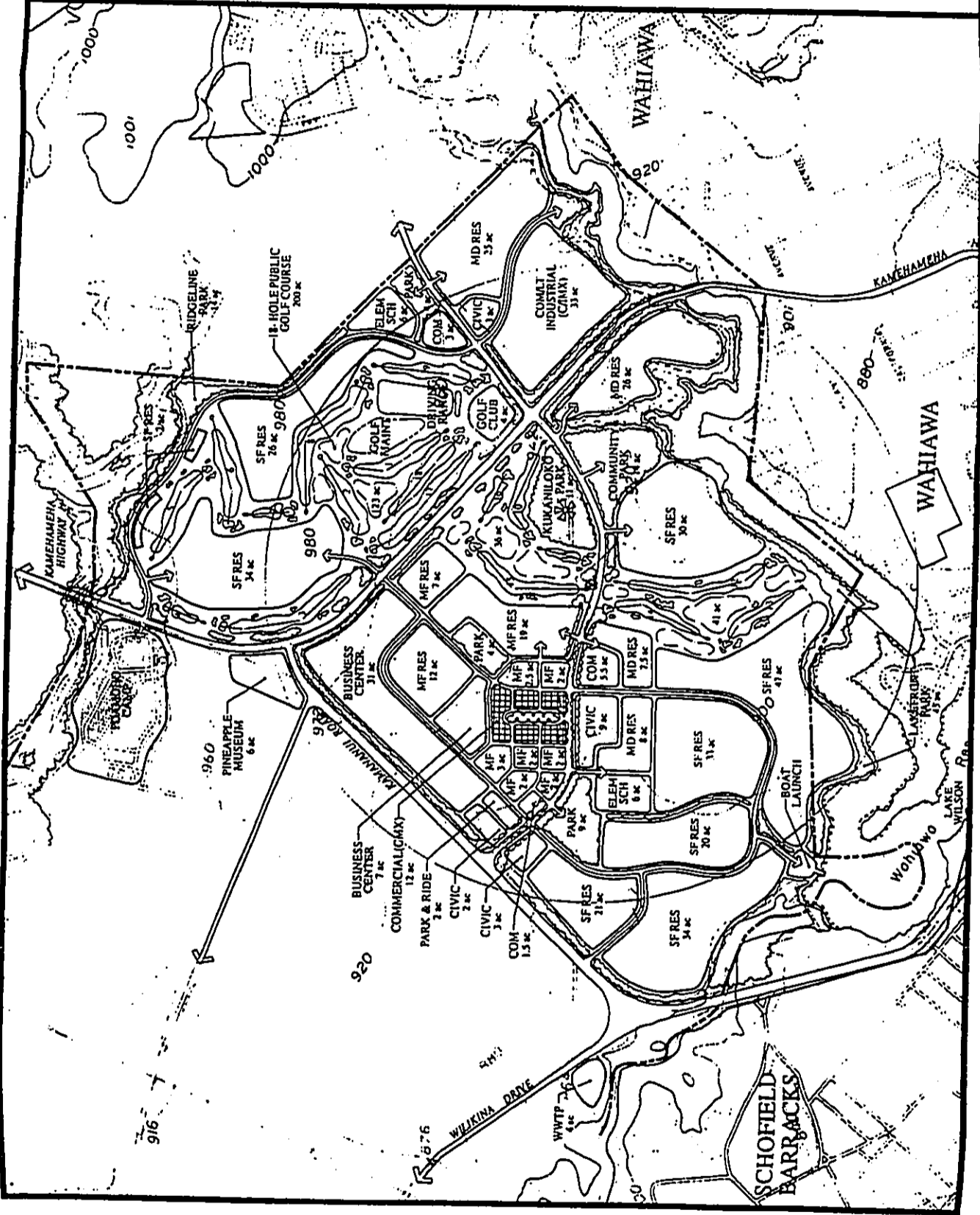
Figure: 4

Concept Plan

WAHIAWA LANDS
MASTER PLAN



Prepared For: Galbraith Trust Estate,
Hawaiian Trust Company, Ltd., Trustee
Prepared By: Heiber Hauret & Fec, Planners



Helber Haster
Planners

April 5, 1993

Mr. Roy C. Price, Sr.
Vice Director of Civil Defense
State of Hawaii
Office of the Director of Civil Defense
3949 Diamond Head Road
Honolulu, HI 96816-4495

Dear Mr. Price:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 19, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

The siting and design specifications for the solar powered electronic siren and siren support infrastructure proposed in your letter will be noted in the final EIS.

The final EIS will include discussion on the probable acceleration and funneling of high winds which could result from the site's adjacent terrain features. The specifications of structures in the development to withstand these winds will be determined when zoning approvals are sought and the urban design plan is formulated. Possible mitigation measures include landscaping to serve as windbreaking features.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS. Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyetake

Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Helber Haster & Fee
Executive Center, P.O. Box 1000

211 Bishop Street, Suite 2100
Honolulu, Hawaii 96813

Telephone: 808-535-2015
Facsimile: 808-535-2014



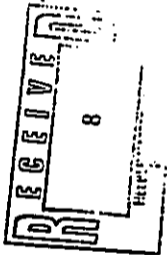
JOHN WAIKIE
COUNCILOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
160 KALANIANA'OLE STREET
HONOLULU, HAWAII 96813-5081
April 6, 1993

REX D. JOHNSON
DIRECTOR
DEPUTY DIRECTORS
JOYCE T. CHANE
AL FANG
JEANNE K. SCHATZ
CALVIN M. TSUDA
BY REPLY REFER TO:

HWY-PS
2.6287



Mr. Brian Suzuki
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Suzuki:

Subject: Draft Environmental Impact Statement (DEIS),
Wahiawa Lands Development (Galbraith Trust Estate),
Wahiawa, Oahu, THK: 7-1-01: vars.

Thank you for your transmittal of February 10, 1993, requesting our review of the subject DEIS. We have the following comments:

1. The traffic study should be revised to reflect Kamehameha Highway as a two lane facility. Although the Oahu Regional Transportation Plan proposes that Kamehameha Highway be widened to four lanes, there is currently no commitment to implement this improvement.
2. In addition to normal growth, the traffic study should reflect developmental growth (i.e. trips generated by other major developments in the area).
Also, justification for the assumptions on internal trips should be provided. The percentage of trips assumed to remain within the area appears to be overly optimistic.
3. The traffic study should be expanded to evaluate the impacts on the surrounding regional network, including H-2.
4. An implementation schedule for required roadway improvements should be included in the traffic study.
5. The spacing of intersections should be reexamined. Specifically, the access on Kamananui Road may be too close to the intersection of Wilikina Drive and Kamananui Road.

Mr. Brian Suzuki
Page 2
April 6, 1993
HWY-PS 2.6287

6. Kamananui Road should be widened to Kamehameha Highway.
7. Intersection improvements at Kamehameha Highway and Whitmore Avenue should be addressed.
8. The Kamehameha Highway/Kamananui Road/Kauhonahua Road junction should be considered for major redesign.
9. The Kamananui Road/Wilikina Drive intersection should be evaluated for intersection improvements beyond signalization.
10. The developer must provide required roadway improvements at no cost to the State.
11. Plans for construction work within the State highway right-of-way must be submitted for review and approval.

Sincerely,

Rex D. Johnson
Rex D. Johnson
Director of Transportation

c: Hawaiian Trust Company, Ltd. (Mr. Michael Angotti)
Helber Hastert & Fee, Planners (Ms. Gail Uyetake)
OEQC

Hilliers Habitat
Planners

April 21, 1993

Mr. Rex D. Johnson
Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, HI 96813-5097

Dear Mr. Johnson:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated April 6, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

1. The analysis contained in the traffic study assumed that Kamehameha Highway would provide four lanes with left-turn pockets at intersections through the project area. This widening was assumed to be in place by 2010, because this improvement is included in the Oahu Regional Transportation Plan. Pursuant to your comment, the project traffic engineer, Wilbur Smith Associates, reassessed conditions along Kamehameha Highway if it remains a two-lane roadway north of Wahiawa.

Segment Analysis. Before proceeding with a segment analysis of Kamehameha Highway as a two-lane highway it is important to identify the type of facility being analyzed. Between Kilani Avenue and Kamananui Road, Kamehameha Highway serves as a two-lane arterial rather than a two-lane rural highway because of the proximity of intersections to one another, the number of traffic signals, and the fact that no passing is allowed. In this segment, the maximum capacity is defined as 1,650 vehicles per hour per lane. This estimate is based on theoretical lane capacities for signalized intersection analysis. Since the most constrained points in this segment will be the intersections, it is appropriate to use this analysis technique.

North of Kamananui Road, Kamehameha Highway is analyzed as a two-lane rural highway. The capacity of a two-lane rural highway is 2,800 vehicles per hour for both directions. Table 3 (attached) shows the projected traffic volumes and conditions on Kamehameha Highway north of Kilani Avenue for Year 2010 without and with the project.

If Kamehameha Highway remains only two lanes, it would experience some congestion during the PM peak traffic hours in the segment between Kilani Avenue and Whitmore Avenue with the project. As shown in Table 3, this section of Kamehameha Highway would be approaching capacity during the PM peak hour, although the AM peak hour would be operating well within the capacity of the two-lane roadway.

The segment between Whitmore Avenue and Kamananui Road would be expected to operate at LOS A under all scenarios. North of Kamananui Road, Kamehameha

Hilliers Habitat Planners
1111 Bishop Street, Suite 2700 Honolulu, Hawaii 96811
Tel: (808) 551-2000 Fax: (808) 551-2001

Hilliers Habitat
Planners

April 21, 1993
Mr. Rex D. Johnson
Page 2



Highway would operate at LOS D or better when analyzed as a two-lane rural highway. The project's impact in the latter two segments would be negligible.

Intersection Analysis. In addition to assuring that individual segments operate within acceptable levels, it is important to perform analysis at study intersections. For the purposes of this analysis, the intersections of Kamehameha Highway at Whitmore Avenue and Kamehameha Highway at Kamananui Road have been analyzed with a two-lane Kamehameha Highway. The results are shown in Table 4 (attached).

At the intersection of Kamehameha Highway at Whitmore Avenue, the Whitmore Avenue approach(es) was assumed to provide one right, one through, and one left-turn lane. Kamehameha Highway approaches were assumed to provide the same geometry with the exception of the southbound approach, where no exclusive right-turn would be needed. With this configuration, the intersection would operate within an acceptable range for year 2010 conditions without the project. The addition of the project would cause PM peak hour operating conditions to deteriorate to LOS F.

In order to remedy this condition, the addition of a second westbound left-turn lane and second southbound through lane would be necessary. Because of these lane requirements at this location, the segment of Kamehameha Highway would need to provide two-lanes in each direction between Kilani Avenue and Whitmore Avenue.

At the intersection of Kamehameha Highway at Kamananui Road, with a two-lane Kamehameha Highway, the eastbound approach would provide a left- and right-turn lane, the northbound approach would provide a left-turn and through lane, and the southbound approach would provide a left-turn and through lane, and that the southbound approach would provide a shared through/right-turn lane. The leg of Kamehameha Highway between Kamehameha Highway and Kamananui Road would be eliminated. This would result in increased traffic on the eastbound right-turn and northbound left-turn movements of this intersection. With this configuration, the intersection would operate at Level of Service B under year 2010 conditions both with and without the project during both peak hours.

Summary. Kamehameha Highway would have the capacity to accommodate all cumulative and project traffic within each segment of the roadway, although the segment between Kilani Avenue and Whitmore Avenue would approach capacity. The intersection of Kamehameha Highway at Whitmore Avenue, however, could not accommodate year 2010 background and project traffic without the widening of Kamehameha Highway between Kilani Avenue and Whitmore Avenue.

Segments of Kamehameha Highway north of Whitmore Avenue would function adequately and all intersections to the north would also function adequately. A two-lane Kamehameha Highway would be sufficient in these segments.

2. At the beginning of the traffic study, queries were made as to the potential prospects in the vicinity of the project area. The proposed Ameron Quarry project was under consideration, but had not been approved and was receiving substantial opposition from the community. The applicant has since withdrawn the proposal from consideration.

April 21, 1993
Mr. Rex D. Johnson
Page 3

There is a potential for more military housing at Helemano Military Reservation. However, the areas are close to the NCTAMS EASTPAC receiver site. If available, military residences within the proposed development area would likely provide a more desirable alternative for housing.

Therefore, increases in background traffic were based on the regional forecasts, which should be reflective of local area projects as well as regional through traffic.

The percentages of internal trips listed on Page 14 of the traffic study (Appendix K of the DEIS) are for the trip ends for specific land uses. When the numbers of trips for the various land uses are combined and adjusted so as not to double count the trip by counting both ends of the internal trip, the proportion of trips which remain internal to the project approximate 15 percent of total trips. This is slightly higher than the 11 percent cited in your letter. However, this higher percentage is attributed to the mix of land uses proposed for the project area.

The proposed plan includes a large amount of office, retail and other non-residential uses, which increases the proportion of internal trips as project area residents travel to these internal uses for work, shopping and business purposes. As an example, the PM peak hour trips generated by the planned uses are almost balanced between residential (55 percent) and non-residential (45 percent). Thus, a higher proportion of resident trips would remain within the project area than is typical for other suburban communities on Oahu.

Current commute to work patterns from Central Oahu show that about a third of the work or work-linked trips are made within Central Oahu. The remaining two-thirds are made to and from areas outside Central Oahu. This indicates that employment opportunities within Central Oahu are not great enough to support Central Oahu employment demand. The proposed development would add significant employment opportunities, and it is reasonable to assume that the employment component would offer an attractive opportunity to draw new residents to the development area, who would also prefer to work close to their residence location. This provides further support for using a slightly higher internal trip percentage for the residential component of the project.

3. Pursuant to your request, the project engineer performed an analysis of the project's traffic increases and impact on service level along the H-2 Freeway. Table 1 (attached) shows the level of service criteria for a freeway. Table 2 (attached) indicates the estimated peak hour traffic volumes by the Year 2010 and the projected conditions for the H-2 Freeway south of the project area both with and without the project.

The sections of the H-2 Freeway north of the Waipio Interchange are expected to operate at acceptable levels both with and without the project. However, traffic operations are expected to operate Level of Service (LOS) F at the southern end of the H-2 Freeway either with or without the project. The estimate project traffic, which amounts to approximately 400 vehicles in the peak travel direction during both the AM and PM peak hours, would increase the volume-to-capacity ratios on this segment by 0.05 in each hour.

April 21, 1993
Mr. Rex D. Johnson
Page 4

Mitigation of Year 2010 freeway conditions could be accomplished by widening the H-2 Freeway from four lanes in each direction to five between the Waipio Interchange and the Waipio Interchange. With this widening, all freeway segments would operate at LOS E or better. It should be noted that this mitigation would be necessary with or without the proposed project. Alternatively, increased transit use, rideshare programs, telecommuting, increased emphasis on employment uses, and other transportation systems management action could be used to reduce the forecast traffic levels to within the planned capacity of the H-2 Freeway.

4. The traffic study recommended improvements that would be necessary for the first phase development (1998 conditions). This was based on first phase construction of 500 multi-family residences, 100 single-family residences, a 10-acre business park, one acre of neighborhood commercial, and a variety of other uses including an elementary school, parks, civic uses, and a park-and-ride lot. Scheduling of subsequent phases of the development will be based on future market conditions and infrastructure availability. This future phasing will provide the basis for determining an implementation schedule for corresponding roadway improvements.

5. The concept plan has been revised to reflect your recommendation to increase the distance between the main project access road at Kamananui Road and the intersection of Wilikina Drive and Kamananui Road (see attachment). When the project reaches the detailed design stage, the project traffic engineer will confirm that sight distances are acceptable at that location.

6. Projected traffic volumes along Kamananui Road, shown in Figures 6 and 7 of the traffic report (Appendix K of the DEIS), do not warrant the widening of Kamananui Road east of the first project access road. Widening has been recommended for the segment immediately east of Wilikina Drive.

7. The intersection of Kamehameha Highway at Whitmore Avenue was one of the study intersections addressed by the traffic study. Mitigation at this intersection would include the addition of a second westbound left-turn lane. This mitigation would be in addition to the provision of two through-lanes in each direction and exclusive left-turn lanes called for on Kamehameha Highway in the Oahu Regional Transportation Plan (RTP).

8. The development concept plan proposes the elimination of the segment of Kaulanahua Road between Kamehameha Highway and Kamananui Road and the realignment of the intersection of Kamehameha Highway at Kamananui Road to form a right angle (see concept plan). The plans to modify this junction, shown in Figure 4 of the DEIS, were not made until after the preparation of the traffic study. The proposed change would improve safety conditions at this location and would serve traffic adequately.

9. Modifications beyond installation of traffic signalization are recommended by the traffic study at the Kamananui Road/Wilikina Drive intersection. The proposed modifications include the addition of a second westbound left-turn lane from Kamananui Road and a second southbound through lane on Wilikina Drive. These modifications are depicted in Figure 8 of the traffic study.

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April 21, 1993
Mr. Rex D. Johnson
Page 5

10. The developer will provide its fair share of roadway improvements, commensurate to the impact of the project on the existing roadway system. Specific improvements and timing of these improvements will be determined in consultation with your department.

11. Plans for construction work within the State highway right-of-way will be submitted to your department for review and approval.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyetake

Gail M. Uyetake
Project Planner

Enclosures

cc: Mr. Michael Angolli, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Response to Comment Table 1

LEVEL-OF-SERVICE CRITERIA FOR FREEWAYS
Wahiawa - Gabriel Lands Traffic Study - Response to Comments

Level of Service	FREE-FLOW SPEED 60 MPH		
	Average Speed (MPH)	Maximum V/C Ratio	Maximum Service Flow Rate (pcphpl)
A	60	0.33	720
B	60	0.55	1,200
C	59	0.75	1,650
D	57	0.89	1,940
E	55	1.00	2,200

NOTES:
Los F is characterized by highly unstable and variable traffic flow.
pcphpl = passenger cars per hour per lane.

Source: "Highway Capacity Manual", Revised Chapter 7, Page 7-8;
and Wilbur Smith Associates, October, 1992.

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

44-11-1-10000

April 21, 1993
Mr. Rex D. Johnson
Page 5

10. The developer will provide its fair share of roadway improvements, commensurate to the impact of the project on the existing roadway system. Specific improvements and timing of these improvements will be determined in consultation with your department.

11. Plans for construction work within the State highway right-of-way will be submitted to your department for review and approval.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.
Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyeake
Gail M. Uyeake
Project Planner

Enclosures

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Response to Comment Table 1

LEVEL-OF-SERVICE CRITERIA FOR FREEWAYS
Wahiawa - Gaithraith Lands Traffic Study - Response to Comments

Level of Service	FREE-FLOW SPEED		
	Average Speed (MPH)	Maximum V/C Ratio	Maximum Service Flow Rate (pc/hpl)
A	60	0.33	720
B	60	0.55	1,200
C	59	0.75	1,650
D	57	0.89	1,940
E	55	1.00	2,200

NOTES:
Los F is characterized by highly unstable and variable traffic flow.
pc/hpl = passenger cars per hour per lane.

Source: "Highway Capacity Manual", Revised Chapter 7, Page 7-8;
and Wilbur Smith Associates, October, 1992.

ENCLOSURE

Response to Comment Table 2

YEAR 2010 PEAK HOUR FREEWAY VOLUMES AND OPERATIONS
Wahiawa - Galbraith Lands Traffic Study - Response to Comments

Freeway Segment	ESTIMATED CAPACITIES		YR 2010 WITHOUT THE PROJECT						YR 2010 WITH THE PROJECT					
	NB/WB	SB/EB	NB/WB			SB/EB			NB/WB			SB/EB		
			Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
AM PEAK HOUR														
H-2 Freeway														
Between Wahiawa and Miliani	8,800	8,800	5,058	0.57	C	5,271	0.60	C	5,419	0.62	C	5,657	0.64	C
Between Miliani and Waipio	8,800	8,800	5,525	0.63	C	5,915	0.67	C	5,886	0.67	C	6,301	0.72	C
Between Waipio and Waawa	8,800	8,800	7,895	0.90	E	10,137	1.15	F	8,256	0.94	E	10,523	1.20	F
PM PEAK HOUR														
H-2 Freeway														
Between Wahiawa and Miliani	8,800	8,800	6,422	0.73	C	5,376	0.61	C	6,859	0.78	D	5,822	0.66	C
Between Miliani and Waipio	8,800	8,800	7,312	0.83	D	6,057	0.69	C	7,749	0.88	D	6,503	0.74	C
Between Waipio and Waawa	8,800	8,800	10,455	1.19	F	10,031	1.14	F	10,892	1.24	F	10,477	1.19	F

Source: Wilbur Smith Associates, April 1993.

ACT2/ADR

Response to Comment Table 3
CONDITIONS WITH KAMEHAMEHA HIGHWAY AS A TWO-LANE FACILITY NORTH OF KILANI AVENUE
Wahiawa - Galbraith Lands Traffic Study - Response to Comments

Kamehameha Highway	Cumulative Without the Project						Cumulative With the Project					
	Northbound			Southbound			Northbound			Southbound		
	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
Btwn Kilani and Whitmore Avenues (1)												
AM Peak Hour	802	0.49	A	917	0.56	A	1233	0.75	C	1392	0.84	D
PM Peak Hour	1083	0.66	B	953	0.58	A	1625	0.98	E	1523	0.92	E
Btwn Whitmore Ave and Kamananui Rd (1)												
AM Peak Hour	516	0.31	A	499	0.30	A	613	0.37	A	599	0.36	A
PM Peak Hour	718	0.44	A	543	0.33	A	834	0.51	A	789	0.48	A
North of Kamananui Road (2)												
AM Peak Hour	533	637	1,170	0.42	C	595	696	1,291	0.46	D		
PM Peak Hour	807	666	1,473	0.53	D	879	736	1,615	0.58	D		

Notes:

- (1) Analysis based on signalized intersection V/C ratio relationships with a capacity of 1,650 vehicles per hour.
- (2) Analysis based on two-lane rural highway analysis with a two-directional capacity of 2,800 vehicles per hour.

Source: Wilbur Smith Associates, April, 1993.

ACT3/ADR

Response to Comment Table 4
INTERSECTION CONDITIONS WITH KAMEHAMEHA HIGHWAY AS A TWO-LANE FACILITY NORTH OF KILANI AVENUE
 Wahiawa - Galbraith Lands Traffic Study - Response to Comments

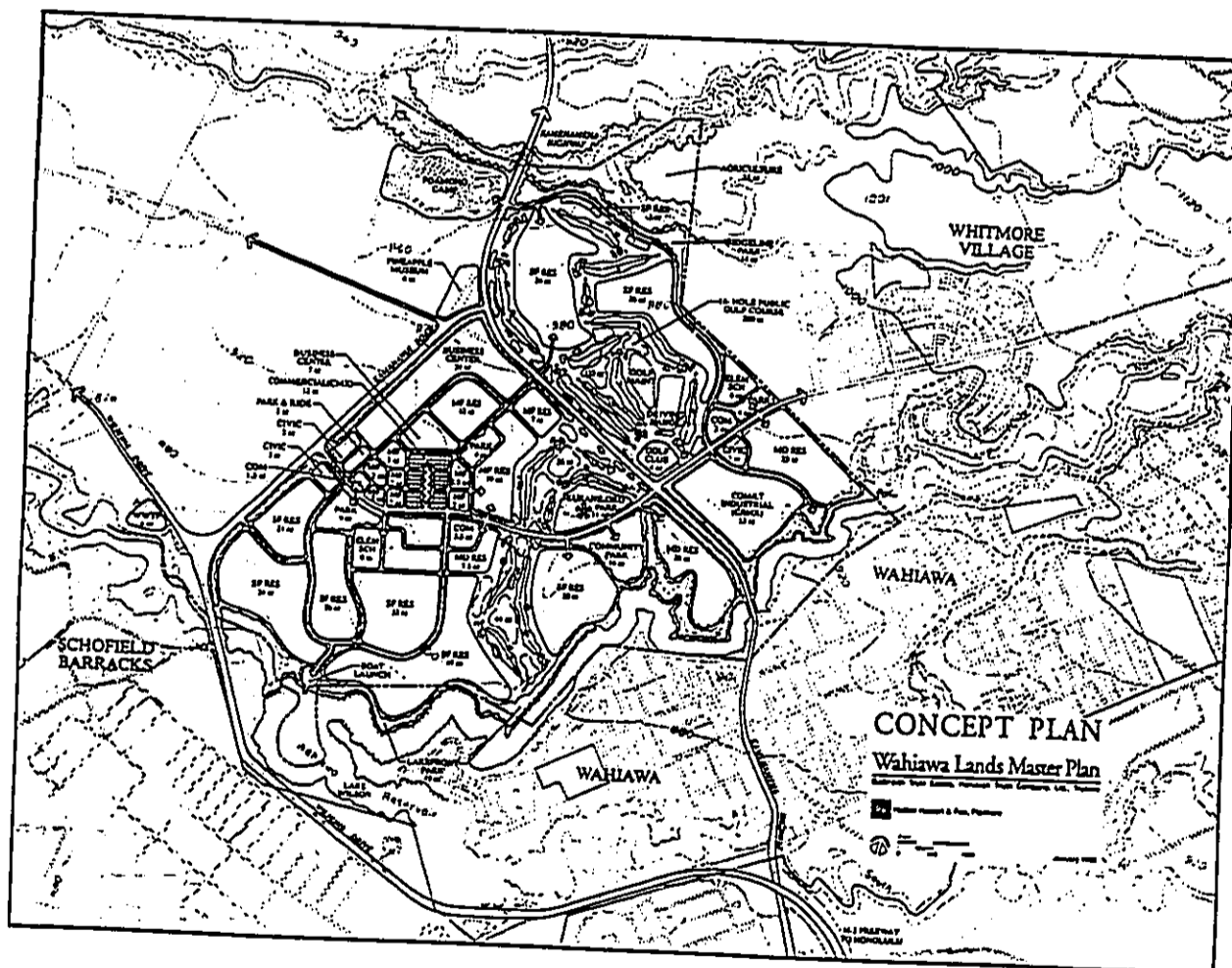
Signalized Intersections	Cumulative Without the Project			Cumulative With the Project		
	V/C	Delay	LOS	V/C	Delay	LOS
Kamehameha Highway at Whitmore Avenue						
AM Peak Hour	0.71	14.9	B	0.982	38.6	D
PM Peak Hour	0.79	19.2	C	1.21	** (1)	F
Kamehameha Highway at Kamananui Road (1)						
AM Peak Hour	0.42	9.0	B	0.54	10.4	B
PM Peak Hour	0.57	10.5	B	0.72	12.2	B

Notes:

- (1) Delay values cannot be predicted when a volume-to-capacity ratio exceeds 1.20.
- (2) This analysis assumes the elimination of the leg of Kaukonahua Highway between Kamehameha Highway and Kamananui Road.

Source: Wilbur Smith Associates, April, 1993.

ACT/MCR



2/93-537

CHARLES T. TOBACH
SUPERINTENDENT



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P. O. BOX 2349
HONOLULU, HAWAII 96810

OFFICE OF THE SUPERINTENDENT

February 18, 1993

RECEIVED
53 FEB 26 PM 1:29
PLANNING DEPT.
C&C HONOLULU

Mr. Brian Suzuki
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Suzuki:

SUBJECT: Draft Environmental Impact Statement
Mauiwa Lands Development
TRK: #11-7-1-001; 005; 006; 007; 008; 025; 026;
031; 032; 033; 034; 035; 036; 037; 038; 039; 040; 041; 042; 043; 044; 045; 046; 047; 048; 049; 050

Our review of the subject DEIS indicates that the proposed development will have a severe enrollment impact on the schools in the area. The planned 3,100 residential units in this subdivision will generate the following number of students for the public schools in the area:

School	Grades	Projected Students
Kaala/Halemano/Hale Kula	K-6	652
Mauiwa Intermediate	7-8	192
Leilehua High	9-12	271

The Department of Education (DOE) cannot assure the availability of classrooms to accommodate the 1,115 students projected from this development. All five schools are operating beyond capacity and face a shortage of classrooms.

We will request that the developer make a fair-share contribution to the satisfaction of the DOE for the construction of needed school facilities. The draft concept development plan designates two potential elementary school sites of six (6) acres next to a public park.

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

Mr. Brian Suzuki

-2-

February 18, 1993

The DOE will require that a minimum of eight (8) acres of useable land be set aside for an elementary school if located adjacent to a public park. If a public park is not available, then the Department will require 12 acres of useable land for an elementary school. We request that the 12-acre school site be donated to the State for a future elementary school in the development.

Should there be any questions, please call the Facilities Branch at 737-4743.

Sincerely,

Charles T. Tobach

Charles T. Tobach
Superintendent

CTT:hy

cc: A. Suga
R. Lee

Helbert Hasterert
Planners

April 12, 1993

Mr. Charles T. Toguchi
Superintendent
Department of Education
State of Hawaii
P.O. Box 23160
Honolulu, HI 96804

Dear Mr. Toguchi:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated February 18, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

The DEIS included the information on the projected number of students generated by the development, as noted in your letter.

The applicant met with your facilities planning staff on March 2, 1993 to discuss the project's impacts on school facilities and required new facilities. Based on those discussions, the concept plan has been revised from showing two 6-acre elementary schools to one 12-acre elementary school site near the Town Center. A copy of this plan has forwarded to your Facilities and Support Services Branch for review and your staff has concurred with the revised location. This information will be discussed in the final EIS.

The applicant acknowledges that your department will determine the balance of the "fair share" contribution beyond the provision of an adequate school site.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

HELBER HASTERT & FEE, Planners


Gail M. Uyelake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Helbert Hasterert & Fee
Planners
211 Hahaione Street, Suite 2200
Honolulu, Hawaii 96815

Telephone: 808.515.2005
Facsimile: 808.515.2020

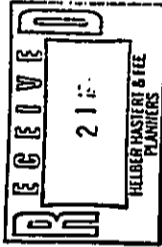


STATE OF HAWAII
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

CHARLES I. KOGUCHI
SUPERINTENDENT

OFFICE OF BUSINESS SERVICES

April 15, 1993



Mr. Thomas Fee
Ms. Gayle Uyetake
Helber, Hastert, and Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Mr. Fee and Ms. Uyetake:

SUBJECT: Wahiawa Lands Master Plan
Galbraith Trust
Wahiawa, Hawaii

This is to confirm our conversation with Ms. Uyetake of your firm that the conceptual location of the twelve-acre school site within the Wahiawa Lands Master Plan is located in an acceptable location.

Since our basic response to the Planning Department was rather broad and addressed only the relative location and size of the school site, we are providing a number of concerns for you to keep in mind as you proceed with your planning:

- 1) Any change in the site location or configuration must be approved by the Department of Education (DOE) prior to a request for zoning approval as well as the ultimate request for subdivision approval. Please provide us with adequate time prior to your approval dates to review, discuss with the district office, and make comments.
- 2) The school site must meet all Educational Specifications and Standards for Facilities requirements. A copy of the specifications regarding school sites is enclosed.
- 3) On the map forwarded for our review, there appears to be roads entirely surrounding the campus. The DOE would prefer that any more detailed plans you develop not encircle the school site with roads. Please meet with the DOE to discuss this concern.

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

Mr. Thomas Fee
Ms. Gayle Uyetake
April 15, 1993
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4) We will insist that there be no encumbrances or easements on the school site.

5) The developer will dedicate the usable twelve-acre school site to the State as well as pay any additional fair-share contribution required by the DOE per State Land Use Commission condition to be determined.

6) We request a topographic map of the area of the school site to determine if there are any development problems. The school standards would be used to determine suitability of the site.

Thank you for the opportunity to work with your company prior to the submission of plans for the different phases of approvals. Our major objective is to provide a school of which the developer, community, and DOE can be proud.

Sincerely,

Paul Kiyabu
Mr. Paul K. Kiyabu
Facilities Director

PKK:LC:hy

Enclosure

cc: A. Suga, Asst. Supt.
R. Lee, CDO
R. Foster, City Planning Dept.
J. Yuen, City Parks & Recreation



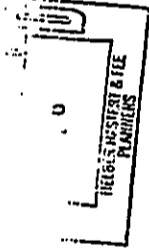
University of Hawaii at Manoa

Environmental Center
A Unit of Water Resources Research Center
Crawford 317 • 2550 Campus Road • Honolulu, Hawaii 96822
Telephone: (808) 956-7351

Mr. Brian Suzuki
Department of General Planning
City and County of Honolulu
650 South King Street, 8th Floor
Honolulu, Hawaii 96813

Dear Mr. Suzuki:

March 25, 1993
RE:0622



Draft Environmental Impact Statement (DEIS) Wahiawa Lands Development Wahiawa, Oahu

The applicant, Hawaiian Trust Company, Ltd. (Trustee for the Galbraith Trust Estate) is proposing to develop a portion of the Galbraith Trust Estate property north of Wahiawa town and between the Wahiawa Reservoir and Kamanuui Road. The applicant is seeking to amend the Development Plan use map for Central Oahu by redesignating approximately 900 acres of land from Agriculture to Residential, Park and Recreation, Low Density Apartment, Commercial Emphasis Mixed Use, Commercial-Industrial Emphasis Mixed Use, Commercial, and Public/Quasi Public. The proposed amendment also seeks to redesignate 32 acres presently occupied by Poamoho Camp from Agriculture to residential. The project will include approximately 3000 market and affordable units in varying densities, core and including a pedestrian mall with elderly housing rentals and commercial mixed use retail and public facilities, an 18-hole golf course that would straddle Kamehameha Highway, various public and quasi-public uses including civic uses such as churches, schools and park-and-ride facilities, a 40-acre business center located at the intersection of Kamehameha Highway and Kamanuui Road, a commercial and light industrial area east of Kamehameha Highway and south of Whitmore Avenue that may include office, retail, trade types of uses, and light warehousing activities, and neighborhood parks and a community park including a linear park along Lake Wilson and a ridgeline park along Poamoho Gulch.

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The Environmental Center has reviewed the document and the proposed project with the assistance of Paul Ekern (Emeritus), Agronomy and Soil Science; Jon Matsuoka, School of Social Work; Michael Graves, Anthropology; Henry Gee and Yu-Si Fok, Water Resources Research Center; Peter Flachsbart, Urban and Regional Planning; and Andrew Tomlinson of the Environmental Center.

General Comments

In general, we find that the Draft EIS for the proposed project is incomplete, inaccurate, flawed, and subsequently does not meet the content requirements of Section 11-200-17, Hawaii Administrative Rules for preparation of a Draft EIS. The document's description and discussion of the proposed project, existing environmental conditions, potential impacts, mitigative measures, and unresolved issues does not include sufficient information necessary for the evaluation of the potential environmental impacts of the proposed project.

Project Description

The description of the proposed project is extremely vague in terms of the specific design and construction of various segments of the development and their relationship to the proposed project and the surrounding environment. Specifically, the Final EIS needs to describe the architectural design of the units in the proposed project and how they will lend to the continuation of a "rural" setting in Wahiawa. No diagrams or pictures are presented to clarify how structures will be designed, including energy saving devices. And, the overall appearance, including drawings, of the completed development is not included in the document. This is significant due to the stated desire of the applicant and the community to retain a rural atmosphere in Wahiawa. How will the structures be designed? What will the structures look like? How will they be constructed? What energy saving designs and equipment will be utilized? How will the energy saving devices interrelate with the proposed project infrastructure facilities? What materials will be used to retain a rural atmosphere? How will the development appear at its various stages, and upon final completion?

The Final EIS also needs to describe possible stream channelization plans that would be used for irrigation of the golf course and surrounding properties. Actions, like stream channelization, will result in secondary or cumulative impacts and must be fully described. What streams will be channelled, and where will they be channelled? How much water will be diverted for irrigation of the golf course? Are there any endangered species in the streams that could be affected by channelization? How will channelization effect the future ecological activities of streams in the project area and down-stream in adjacent water bodies?

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The proposed project also includes the construction of structures for light industrial and commercial uses, but no indication or discussion of the potential industries and their impacts on the area are indicated in the document. What industries are being considered for development in the proposed project area? Are these industries consistent with the general development plan for the area? Will the industries produce any adverse environmental impacts for the area, such as pollution? How will the industries impact water supplies and contribute to solid waste and waste water disposal in the project area and in Wahiawa?

Wastewater Treatment

The applicant also proposes to construct and operate a tertiary wastewater treatment facility which would provide some effluent for irrigation to the golf course while dumping the remaining effluent into Lake Wilson. However, the applicant needs to describe how the proposed wastewater treatment facility will be designed, constructed, and operated. The applicant should also describe existing uses of Lake Wilson, including the current wastewater disposal practices of other entities, and how projected wastewater disposal from the proposed project will interrelate with current disposal in the area. This is significant due to the ever increasing disposal and contamination problems in Lake Wilson and the county in general. How much effluent is being dumped into Lake Wilson per day by existing wastewater treatment facilities and other users? What are the water quality characteristics of wastewater currently being dumped into Lake Wilson? What is the water quality of Lake Wilson? What is the projected water quality of the effluent from the proposed project? How will this effluent affect Lake Wilson? How will the projected dumping of effluent from the proposed wastewater treatment facility affect the current wastewater disposal of existing operations that currently dump into Lake Wilson? How much effluent can Lake Wilson accept? Who has priority to dump wastewater in Lake Wilson?

What is the design of the proposed tertiary wastewater disposal facility of the proposed project? What is its capacity? Has the county appropriated funds and developed a plan to build a treatment facility to accommodate the treatment of wastewater from the proposed project, as required by the Department of Health? Has the county included the proposed project and its wastewater disposal needs in its future wastewater disposal plans?

Groundwater

The proposed project also calls for the development of a new water system that would rely on the Wahiawa Aquifer to supply its water demands. However, it is unclear where infrastructure for the proposed water system will be located. Specifically, where will the proposed reservoirs be located? What are the capacities of the proposed reservoirs? How will the proposed reservoirs be constructed? What will be the visual impact of the

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reservoirs on the community? What effect will the proposed water system have on the present water resources of the area?

Agricultural, Socio-Economic Impact

The impacts of the proposed project to the socio-economic environment of the area are potentially colossal, particularly in relation to the agricultural and rural aspects of the project area. The applicant states the desire to keep the area rural and "fit" the project with the surrounding communities. However, the applicant needs to adequately discuss how the proposed development and its residents will interrelate with existing rural uses of the area and the residents who have expressed an overwhelming desire to retain the area as rural. The applicant states that there is "considerable resistance" to the proposed development project and that the "fit" of the proposed project with the surrounding communities depends on design decisions. However, these design decisions are not enumerated in the discussion of the proposed project. How will the influx of a projected 8,000 to 9,000 new residents lend to a rural atmosphere in Wahiawa? How will the new light industrial and commercial/retail businesses proposed in the development affect the existing businesses in Wahiawa? What is the projected socio-economic and cultural composition of the new residents in the proposed project, beyond their projected annual income? How will they interrelate with the predominantly immigrant and second generation residents who reside in Wahiawa, Whitmore and Poamoho Camp? Who will be the major users of the golf course? What are the projected greens fees for the golf course and will these be affordable for existing residents of Wahiawa, Whitmore, and Poamoho?

The applicant also describes the possible demise of the Del Monte pineapple business and Oahu Sugar Company on Oahu and the loss of 1,500 jobs that would result from the loss of planting acreage to the proposed development, but needs to discuss the implications to the present residents and employees of the area. The applicant also needs to discuss the problems Del Monte may experience in securing replacement lands, due to the large increase in urban development in the Central Oahu area that has already reclassified agricultural lands. How much land is available for agricultural development of pineapple in the area? What development projects in the area have utilized agricultural lands for urban development? What will be the impact to the greater Wahiawa community, including Whitmore and Poamoho Camp, of the desolation of Del Monte and Oahu Sugar Company operations in the area? If Del Monte leaves Oahu, what will be the affect to the businesses in Wahiawa? What will be the possible economic and longterm employment effects to the State if Del Monte is forced to leave Oahu or Oahu Sugar Company is dissolved? What will be the affect to the 1,500 employees of Del Monte's departure?

In addition, how will the influx of 8,000 to 9,000 new residents in Wahiawa affect adjacent communities in the North Shore? Will there be an influx of weekend tourists to the North Shore from the project area? How will the "country" or rural atmosphere of the

Mr. Brian Suzuki
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North Shore be affected by the proposed project? How will North Shore businesses be affected by the proposed project? How do residents on the North Shore feel about the proposed project?

Finally, there is absolutely no discussion of the mitigative measures associated with socio-economic impacts to the area from the loss of agricultural lands, the introduction of urbanization and subsequent loss of a rural atmosphere. What measures will be implemented to mitigate the urbanization of the area? How will the rural atmosphere be retained? What mitigative measures will be implemented to retain Del Monte and Oahu Sugar Company and agricultural production, which is mandated by State Plans? What does the applicant propose to do if replacement lands can not be secured for Del Monte and Oahu Sugar Company and the replanting/scale down schedule implemented under the proposed project is unsuccessful? Will the jobs generated by the proposed development project accommodate all the employees displaced by the desolation of Del Monte and/or Oahu Sugar Company.

Relationship to State and County Plans

The applicant also needs to describe the conflicts associated with the proposed project for the State and County plans. The discussion is extremely vague in regards to the conflicts that the project proposes between urban and agricultural uses of the project area. While the applicant states that the project will retain a rural setting in the area in order to avoid the suburbanization of the community, the applicant is requesting a land use reclassification from Agriculture to Urban. In determining the boundaries for an Urban District the following standard would be used to evaluate the project by the Land Use Commission: "It shall include lands characterized by a 'city-like' concentration of people, structures, streets, urban level of services and other related land uses." Clearly, from the definition of urban, the reclassification of the lands to Urban from Agriculture for the development of the proposed project will not contribute to a rural setting as stated by the applicant. Does "city-like" constitute a rural setting that "fits" with the agricultural community in Wahiawa?

The discussion concerning the conflicts with State plans is only given cursory reference. For example, the only discussion concerning the conflict with State Functional Plans states, "Discussion: The proposed project conforms to most applicable goals, objectives, and policies and guidelines of the State Functional Plans. Because of their competing nature, the project is not consistent with all policies." What policies is the proposed project not consistent with? What are the implications of these inconsistencies for the State, county, and the local communities?

In addition, the project includes lands classified as Conservation. Although this is a trigger for Chapter 343, HRS, the applicant fails to mention it as a factor in the

Mr. Brian Suzuki
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Page 6

preparation of the Draft EIS. As the use of State Conservation Lands in the project area triggers Chapter 343, HRS, will the Draft EIS be submitted to the State for acceptance? And, how will Conservation Lands be utilized in the proposed project? How will they be affected by improvements proposed under the project development plan?

Golf Course/Soils

The applicant's discussion of the development of the proposed golf course and its impact on the soils and surrounding environmental conditions is completely inaccurate. The discussion, including all of Appendix A, is based on information not specific to Wahiawa and its particular environmental conditions, but appears to be based on mainland conditions that have no bearing or relevance to conditions in Wahiawa. Consequently, it is impossible to make an accurate assessment of the potential impacts from conversion of agricultural lands to an urban area that includes a golf course. An assessment of the impacts to soils and the environment from the application of herbicides, fertilizers, and pesticides can not be rendered with the flawed and inaccurate information in the document.

For example, the document makes continual reference to Karst topography and the reaction of golf course related activities under those topographic conditions. However, Karst Topography is not found in Wahiawa or on Oahu. In addition, the document makes reference to the effects of snow melt on the leaching of nutrients into the soil and the turfgrass. "Application of nutrients, especially organic wastes in the late fall or winter, increases the risk of loss in snowmelt (emphasis added) and spring runoff." Furthermore, the applicant makes reference to how winter conditions affect golf course conditions when he/she states, "Winter and low temperature related stress results in increased susceptibility of turfgrass to snow molds, dead spot, and snow scald." Clearly, Appendix A was not prepared to address the specific conditions existing in Wahiawa and the introduction of a golf course to the tropical climate.

In addition to these errors with regard to environmental conditions in Wahiawa, the applicant fails to recognize other specific conditions unique to Hawaiian topography, soils, and the conditions at the proposed project site. Specifically, the applicant fails to recognize alterations the soils have endured due to pineapple cultivation. These include increased levels of organic matter from longterm fertilization and the longterm consequences of phosphorus fixing. How has pineapple cultivation affected soil conditions on the proposed project site? How will the shift from pineapple cultivation to grass sod alter the water budget in the area? How will wastewater be disposed of during periods of adequate rainfall when irrigation is not needed?

Conclusion

Our reviewers find that the current Draft EIS for the proposed project is extremely

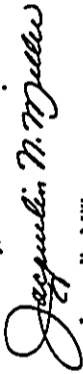
Mr. Brian Suzuki
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Page 7

inadequate and that the magnitude of the proposed project's impacts are not sufficiently addressed in the draft document. In addition, due to the extended time for the implementation and construction of the project, environmental conditions may be radically altered from the current conditions discussed in the Draft EIS to the time of final project completion. As such, it would be necessary for the applicant to undertake substantial modifications, including further evaluation and discussion of many aspects of the proposed project, environmental conditions, and cumulative impacts, before a Final EIS would be completed pursuant to the requirements of Chapter 343, HRS, and Section 11-200-17, HAR.

We suggest that the Draft EIS be withdrawn, modified, improved, and resubmitted as a comprehensive Draft EIS/Master Plan that addresses cumulative impacts of the proposed project. The Master Plan could then be used as the foundation for a series of supplemental environmental impact assessments and EIS's for each segment of the proposed project. These segments should include supplemental EIS's for the golf course, residential/commercial areas and structures, and wastewater treatment and disposal, etc.

We hope our comments have been helpful. If you have any questions regarding our comments on the proposed project, please feel free to call us at the Environmental Center.

Sincerely,



Jacquelin Miller
Associate Environmental Coordinator

cc: OEQC
Hawaiian Trust Co.
Heiber Hastert & Fee ✓
Paul Ekern
Jon Matsuoka
Michael Graves
Henry Gee
Yu-Si Fok
Peter Flachsbart
Andrew Tomlinson



April 21, 1993

Ms. Jacquelin Miller
Associate Environmental Coordinator
Environmental Center
University of Hawaii at Manoa
Crawford 317
2550 Campus Road
Honolulu, HI 96822

Dear Ms. Miller:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 25, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

General Comments

We do not concur with your assessment that the DEIS does not meet the content requirements of Section 11-200-17, Hawaii Administrative Rules. We feel the DEIS complies fully with the referenced content requirements and provides an appropriate level of detail to support the Development Plan Land Use Map Amendment request. The following sections address your comments in detail.

Project Description

A great deal of information is provided in the DEIS to describe the project. A carefully conceived land use and circulation plan is provided and described identifying specific locations of the major land uses and major roadway alignments. The market support and need for the land uses are analyzed in detail in the Market Study (Appendix I) and summarized in the DEIS. Major roadway alignments and intersection locations are identified and analyzed with regard to traffic impacts. More detailed "footprint" plans were prepared for the proposed mixed use town center and the Kukanihoku Birthstones State Monument to assist in analyzing some of the more complex land use compatibility, density and circulation issues involved. Infrastructure systems were analyzed and needed improvements were described to support the development. The overall development concept was described with regard to underlying design principles and intent. The need to establish an "appropriate" architectural character to achieve the desired "sense of place" and "community fit" is also recognized in the DEIS. The DEIS document provides a solid framework to evaluate and monitor forthcoming design phases where the architectural principles and philosophy outlined in the report will begin to take shape.

Since the DEIS was filed, the applicant has announced that Schuler Homes, Inc., headed by Jim Schuler, has joined as the joint venture partner to provide the necessary development expertise to construct the project. Schuler Homes has earned an award

1616 - Heiber & Fee
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winning reputation in Hawaii for its expertise in building affordable communities. Its demonstrated attention to contextual design and ability to create the "sense of place" discussed in the EIS will be critical to the overall success and community acceptance of the project.

Notwithstanding the above comments, the applicant concurs with your general assessment that the actual three dimensional design of the project, not just the land use and circulation plans and statements of design philosophy or intent are needed to evaluate true compatibility with the surrounding communities. The importance of continuing to involve the community and organizations such as yours in the natural evolution of the design process is also recognized. In the interest of comprehensive planning and maintaining ongoing community involvement in the planning process, the applicant is recommending that an "urban design plan" for the project be prepared as a condition of Development Plan approval. The plan would allow for a closer evaluation of appropriateness, contextual design, and community fit. The plan would be reviewed by the City Council concurrent with first phase zoning approvals. The plan would provide overall and site specific design guidelines for the development consistent with the design philosophy established in the EIS, provide architectural, landscape, lighting, and other design details for the various land use elements and circulation systems, and provide greater detail in the area of project phasing and implementation.

Please note the Final EIS has been updated to include a more expanded discussion of energy saving design principles to be incorporated into the project. The expanded discussion references the standards set forth in the Hawaii Model Energy Code, and design strategies identified in the 1990 AIA/DBED study entitled "Hawaiian Design, Strategies for Energy Efficient Architecture." The applicant recognizes the importance of incorporating energy saving design to encourage cost effective energy efficiency.

Golf course irrigation would utilize a portion of the treated wastewater effluent generated by the development, as described in Section 6.3 of the DEIS. Irrigation of the golf course will not involve channelization of the adjacent Poamoho or Kaukonahua Streams, nor diversion of any waters of these streams.

As described in the DEIS, the 33-acre commercial/light industrial mixed use area planned adjacent to the Kamehameha Highway/Whitmore Avenue intersection may include front office retail, and trade types of uses along the primary street frontages with light warehousing activities in the rear. With this type of development, an overall appearance of a business park rather than a light industrial park can be maintained. As with the balance of the development area, this area currently has a Development Plan Agriculture designation. Potential water quality impacts and mitigation measures of the light industrial area are discussed in Section 4.4 of the DEIS. Aggregate potable water, solid waste and wastewater disposal impacts are discussed in the DEIS. Since the specific impacts to these resources cannot be calculated at this time.

Wastewater Treatment

According to a report prepared by the Honolulu Department of Public Works and the Hawaii State Department of Health ("Water Quality Management Plan for the City and

Ms. Jacquelin Miller
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County of Honolulu", September 1990), waters from Kaukonahua Stream have been impounded in Wahiawa Reservoir since 1906 by Waiatua Sugar Company for the irrigation of its mauka sugar cane fields. In addition to irrigation, the reservoir is used for recreation, fish propagation and wastewater reclamation. The reservoir serves as receiving waters for secondary treated effluent discharged into the South Fork from Wahiawa WWTP, and from the Whitmore Village WWTP into the North Fork. As stated in the DEIS, the City is currently constructing a 15-inch sewer line to convey some of the effluent from the Whitmore Village WWTP to the larger Wahiawa facility.

The Water Quality Management Report cites studies by the University of Hawaii Water Resources Research Center for the City and County as indicating that the reservoir may be in an eutrophic condition, with the principal sources of nutrients being wastewater effluent and storm runoff.

The current plan proposes a privately-owned, 4.61 mgd tertiary level wastewater treatment plant (WWTP). The wastewater pump station (WWPS) and force main (FM) would likely be owned by a community association and operated by a private contractor. The particular design for the WWTP will be selected later after evaluating alternatives. The WWPS and FM will be designed and constructed according to City standards and will be properly operated and maintained by licensed operators. Final construction plans for the proposed WWTP, WWPS and FM will be submitted to the City and County for information when they are available.

The City will accept dedication of the gravity sewer system as long as all sewers are located in roadways and sewer easements that are dedicated to the City. The gravity sewer system will be designed and constructed to City standards.

The City Department of Public Works has stated that it has no objection to the privately owned WWTP. The proposed WWTP will require a separate Development Plan Public Facilities Map Amendment from the City.

Discharge of the tertiary treated effluent will reduce the inorganic nutrient loading in the reservoir. The Department of Land and Natural Resources Division of Aquatic Resources (DAR) manages the public fishery, and has stated that it would not object to the discharge of tertiary level treated wastewater into the reservoir if residual phosphates and nitrates did not exceed present loading rates, and if a monitoring system was established at the WWTP to prevent the discharge of significant toxic or hazardous substances. The applicant intends to comply with Department of Health and DLNR requirements governing the discharge of treated effluent into Wahiawa Reservoir.

Groundwater

Two storage reservoirs are anticipated for the development, with capacities of 2.0 and 1.5 million gallons, respectively. As the Board of Water Supply requires that reservoirs be located at least 100 feet higher than the highest elevation and 190 feet above the lowest elevation in the area to be served, both reservoirs would have to be located off-site. A possible location for these reservoirs would be on Whitmore Avenue east of Whitmore Village. This information is discussed on pages 6-13 and 6-14 of the DEIS. The proposed reservoirs will probably be constructed of reinforced concrete, and will impose

some impact on existing views. Detailed visual impacts of the reservoirs cannot be determined until a specific site and construction plans are determined. Section 6.2 also describes the impacts of the development on the present water resources of the area.

Agricultural, Socio-Economic Impact

Agriculture. The project is not intended or expected to be responsible for the demise of either Del Monte or Oahu Sugar Company operations on Oahu. Although the project will result in the loss of about 800 acres of prime agricultural lands over a five- to seven-year phase-out period, the applicant intends to make a long-term commitment of 1,300 acres to the north of Kamanui Road to agriculture. Hawaiian Trust Company, Ltd. has worked very closely with Del Monte to come up with a plan that would minimize impact to the plantation and its workers. As noted in the attached letter from Dan Wilson, General Manager of Del Monte's Hawaii operations, Del Monte feels that the commitments and agreements it has made with Hawaiian Trust will allow it to remain a significant force in the Hawaii pineapple industry for years to come. He also notes that they have already found 400 acres of replacement land in the Kunia area.

The applicant is very aware, from many discussions with Wahiawa residents, that they strongly support agricultural workers and want to preserve Wahiawa's special character. However, Wahiawa residents (surveyed in mid-1992) did not express "an overwhelming desire to retain the area as rural", as stated in your letter. Most respondents explicitly stated:

- that use of some 800 acres near Wahiawa for housing and jobs was more important than dedicating it to pineapple cultivation, so long as Del Monte and its workers were not adversely affected; and
- the number of housing units planned for the project seemed "about right" for Wahiawa.

The survey questions and results are included in Appendix H of the DEIS.

Development of a project that supports the vitality and spirit of Wahiawa will depend on sensitivity to the needs and outlook of Wahiawa's people. Appendix H includes a list of proposed mitigations, stressing community involvement of the project's developer and residents with Wahiawa residents and business interests.

Residents and Workers. As reported in the DEIS, the proposed development will accommodate Oahu residents who need affordable housing and want such housing in the Wahiawa area. Many will come from the Central Oahu Development Plan area. Some will be young North Shore families seeking affordable housing in proximity to their home towns. As in Miliiani and Wahiawa, some will be military families. The social and cultural composition of the project residents and work force will be comparable to that of the regional and island populations.

No unusual problems of adjustment between the expected population and the current population of Wahiawa and Whitemore seem likely.

Impact on North Shore communities. As noted in Appendix H of the DEIS, North Shore residents are likely to be concerned with traffic impacts associated with the project. Of these, traffic through the project site would be a major concern. Other possible impacts on North Shore communities include:

- increased employment opportunities in the region;
- increased retail choices nearby (and on the way home from jobs in the Honolulu and Central Oahu areas);
- affordable housing, which could help to relieve crowding and provide new opportunities for young North Shore families; and
- somewhat larger populations at North Shore beaches. This last impact has not been quantified, but it would hardly amount to a large "influx of weekend tourists," since project residents are expected to be existing Oahu residents, many of whom already look to the North Shore for weekend recreation.

Golf Course. The golf course is planned as a recreational facility for the general public, providing golf at rates comparable to those at municipal courses.

Relationship to State and County Plans

The section of the DEIS cited in your letter as being the only discussion concerning the conflict with State Functional Plans is excerpted from the section describing the project's relationship to the State Land Use Law. The discussion was presented in reference to one of the criteria which must be considered by the Land Use Commission in reviewing petitions for reclassification. In addition to consideration of the conformance of a proposed development to the adopted functional plans, it calls for consideration of conformance to the applicable goals, objectives, and policies of the Hawaii State Plan and its relationship to the applicable priority guidelines of the Hawaii State Plan. We feel the discussion contained in Chapter 3 of the DEIS ("Relationship of Proposed Project to Existing Public Plans, Policies and Controls") discloses potential conflicts, particularly in the area of agriculture, the project may have with government policies.

Central Oahu will likely continue to support plantation agriculture for the coming years. Its residents will largely consist of people who choose to live in the upland heart of the island, away from the more congested atmosphere of the urban area along H-1. Just as independent pineapple operations and military support jobs have in the past given Wahiawa an identity and outlook separate from that of areas to the south, so new employment sites and neighborhoods can help Wahiawa to be more than another outlying suburb.

The "rural" or "small town" identity of the project and Wahiawa as a whole depends in part on planning included in the EIS (e.g. project population densities lower than those found in Wahiawa today), and in part on an effort to identify, in collaboration with existing Wahiawa residents, local needs and strengths to be addressed in making a "greater Wahiawa" heir to the independent small town tradition of Wahiawa. The applicant has begun, and is committed to continuing, the community involvement effort

described here. Evidence of this are the meetings with a community advisory committee which has met nine times since February 1992, meetings with seven Wahiawa community organizations¹, and two town meetings open to the general community. The applicant's intent to continue this dialogue with the community has been expressed consistently to community groups and government agencies.

The applicant intends to submit a petition to the Land Use commission to reclassify Agricultural District lands in the proposed project area to the Urban District. The applicant does not intend to reclassify the Conservation District lands that are in the proposed project area. A boundary interpretation was conducted for the property which indicated that the Conservation District boundary along the southern part of the project area coincides with the top of the Wahiawa Reservoir bank. Development of the conservation lands would be limited to pedestrian trails and a proposed boat launch area near the reservoir spillway. These activities would be regulated by DLNR under the Conservation District Use Permit process.

Soil Course/Soils

Your comments were forwarded to the project's geochemist, William J. Walker, Ph.D. and soil scientist, James C. Balogh, Ph.D. The following responses were provided in the most part by Dr. Walker.

In summary, the reviewer(s)' comments were found to be extremely vague, with little or no relevance to the information actually presented in the report. The specific instances cited "inaccuracies" have been taken out of context to give the impression that site specific information was not used in the assessment. The reviewer(s) have not commented on the sections regarding transport and movement of applied chemicals at the site (simulations) which describe the exact soil and climatic features considered in the assessment. Reviewer comments regarding effects of pineapple cultivation on native soils are incorrect.

The reviewer(s)' main concern appears to be with the information presented in Appendix A and in other sections of the report (not specifically noted), described as "completely inaccurate" information. Appendix A contains:

- soils map of the site
- soil survey information of the site
- USGS topographic map of the site
- pesticide toxicity tables
- turf pest control guidelines: University of California

The soils map is a reproduction of a soil survey map produced by the U.S. Department of Agriculture, Soil Conservation Service (SCS) in cooperation with the U.H. Agricultural Experiment Station, superimposed over the project area. Dr. Walker compared the distribution of soils at the site with those reported in the map and noted any unusual

¹ Wahiawa Neighborhood Board, Wahiawa Community and Business Association, Wahiawa Rainbow Club, Whimone Seniors, Whitmore Village Community Association, Wahiawa Rotary Club, and the Wahiawa Lions Club.

features or departures from the soils map. In addition, he compared this information with the soil survey information obtained from the SCS in Honolulu, and verified, with soil sampling, the general characteristics of the main soils at the site. He found that the information obtained from the SCS and the soils map found in Appendix A were largely accurate and feels that the soils assessment is accurate for the site. It should be noted that Dr. Walker contacted the U.H. Soil Science Department on at least one occasion to inquire about the source of the most accurate soils information for the site. Personnel (documented in phone logs) from the Department stated that the SCS in Honolulu had the most accurate (and recent) soils data for the site. This was the information used in the report, and therefore should represent the best available information on soils at the site.

The USGS topographic map is also accurate based on Dr. Walker's comparison with general landscape and slope features during the site assessment. It was included to indicate any abrupt changes in elevation and compared favorably to the features noted in the aerial photos.

The toxicity tables are also accurate and have been compiled from numerous sources in the peer reviewed literature. Drs. Walker and Balogh published these recently in a book for Lewis Publishers and have thoroughly checked the sources. In addition, these toxicity parameters were intended to act as a guide for assessment and not to act as the assessment. This was fully explained in the text.

The pest control guideline was included as a suggested guide that could be developed specifically for the site under the turf management plan. The University of Hawaii does not produce such a guideline, so it was included to illustrate the type of document that should be produced for management in Hawaii. This was also fully explained in the text. It is unclear why the reviewer(s) took this information out of context.

The reviewers also suggest that only "mainland" conditions were considered in the assessment and not the conditions at the site. Walker and Balogh feel this is an inaccurate interpretation of the report. As noted above, the soils of the area were compared to the soils information supplied by the SCS and then turfgrasses, pesticides and nutrient guidelines were established based on soil type, climate, and nutrient requirements of the turf specifically for the site. The modeling of pesticide and nitrogen fate was simulated under specific climate data for the site and with chemicals commonly used in Hawaii for similar turfgrasses. In addition, the geochemical consultants are very aware of groundwater contamination problems in Oahu (particularly by organic bromine compounds used as soil fumigants) and tried to avoid choices of chemicals likely to cause surface and groundwater problems under site specific conditions. Sections were included on non-chemical control of nematodes, etc., in the turf management plan in response to groundwater protection concerns. The report mentioned non-site specific conditions only when giving a review of information used in the assessment so that the reader would realize the wealth of information available on the subject and to provide a scientific basis for the decision making.

An example of the reviewer(s)' confusion in this respect is with the reference to Karst topography and snowmelt. The geochemists are aware that neither of these conditions occur at the site. The reviewer has taken these terms completely out of context. They were cited only once or twice and not "continually". The reference occurs in a

April 21, 1993
Ms. Jacquelin Miller
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background discussion of factors effecting transport/runoff processes at all sites. The same can be said of the snowmelt/winter comments. This is also totally out of context as it occurred in a discussion of general factors affecting nutrient loss. It should be noted that while Karst topography does not exist at the site, volcanic soils do exhibit some behavior similar to those observed in Karst situations.

The reviewer(s)' comments about cultivation are also suspect. First the DEIS is not intended to evaluate soil changes due to pineapple cultivation, but rather assess the potential impacts due to a change from pineapple to turfgrass/golf course development. The soil survey information was very recent for the site and is therefore representative of post-cultivation conditions. The assessment of probable impacts due to turfgrass at the site is duly noted in the report. We recognize that cultivation of any soil will result in changes, but the alteration of soils due to pineapple cultivation has been largely accounted for by the recent soil survey information used in the report.

Phosphorus fixation is a non-issue at the site as grass will easily adapt to present conditions (it is native to the area) and P requirements will be based on soil test results presumably set forth by the University. This test would be performed by the University soil testing laboratory. The use of a phosphorus soil test specific for these soils was noted in the report.

The reviewer(s)' comments about soil organic matter are also incorrect. Cultivation of soil will actually cause a significant decrease in soil organic matter due to enhanced mineralization usually provoked by tillage. Thus, pineapple cultivation has decreased the soil organic matter content of the soils compared to the original non-cultivated situation. Straw is presumably burned or plowed under and does not result in organic matter accumulation. These are basic facts of soil science and are noted in many reviews (especially: Soil Fertility and Organic Matter as Critical Components of Production Systems, 1987, ASA Publications). The organic matter content of the soils at the site will actually increase with the presence of turf due to the non-tillage aspects of management and the development of a thatch layer. The implications of turf thatch and organic matter on movement and transport of applied chemicals and water at the site has been thoroughly discussed in the report.

The water budget, while not specifically part of the golf course impact assessment, could be estimated from the information in the DEIS, assuming golf course design and layout (acreage of fairways, roughs and greens) information were available. It is expected that turf will require more water compared to pineapple (a low ET crop), but much of the extra water demand will be compensated for by the use and reuse of effluent water from the development. In addition, water management at the site will allow for irrigation regimes that will be based on need through soil moisture measurements. Runoff losses will be controlled via drainage ways such that much of the excess water leaving the point of application can be recaptured and used again. As noted in the report, the turf to be used at the site, Bermudagrass, can tolerate increased levels of salt and therefore can be effectively managed without significantly increasing the burden on present fresh water supplies.


We note that the reviewer(s) made no mention of the simulations provided in the report, and assume that they were found satisfactory.

Helber, et al.
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Ms. Jacquelin Miller
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We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.
Sincerely,

HELBERT HASTERT & FEE, Planners



Gail M. Uyeiaka
Project Planner

Enclosure

cc: Mr. Michael Angolli, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.



Del Monte Fresh Produce (Hawaii) Inc.

Daniel R. Wilson
Vice President
General Manager

April 6, 1993

Mr. Robin Foster
Chief of Planning
Planning Department
City and County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813

Dear Mr. Foster:

Local newspaper accounts of the proposed development of Galbraith Estate lands by Hawaiian Trust have indicated severe impacts on the Del Monte pineapple operation. I am writing this letter to be certain that your department clearly understands that these accounts have significantly overstated probable impacts. Del Monte believes that the commitments and agreements we have made with Hawaiian Trust relating to the Galbraith Lands Master Plan will allow us to remain a major force in the Hawaii pineapple industry. The proposed development will remove approximately 900 acres of land from agriculture, currently used for the cultivation of pineapple, and convert it to predominantly affordable housing. However, positive steps are being taken by Hawaiian Trust and Del Monte to mitigate any impact.

From the initiation of the development proposal, Del Monte's position has been very clear. The land is owned by the Galbraith Trust, not by Del Monte and, therefore, Del Monte is not in a position and would not take a position of dictating to the land owner what should occur with the land. Our lease with the Galbraith estate expires at the end of 1994. We fully intend to renew the lease on the balance of the land not under development and, therefore, would not want to oppose the development of the land. That issue clearly is between Hawaiian Trust, the Galbraith heirs and the City and County of Honolulu.

The Hawaiian Trust group handling the development, led by Mike Angotti, has been very helpful in assisting Del Monte to find replacement land, and in working with Del Monte for a smooth and orderly transition from the development lands. Because of Hawaiian

Mr. Robin Foster
April 6, 1993
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Trust's close coordination with Del Monte, we have been able to adjust our planting schedules and are not required to have replacement lands until 1999. As discussed in the EIS Report, we will require 400 acres of replacement land in 1999, and in 2001, 400 additional acres. It is necessary for us to obtain replacement land, but not necessarily in the short term. We have discussed additional land with two land owners, Robinson Trust and Campbell Estate, to identify potential replacement lands and both are interested in working with us.

To date, we have identified 400 acres of replacement land currently not in cultivation that could be used to replace the 1999 land requirement. Additional replacement land has been identified and may be available sooner, depending upon the continuation of Oahu Sugar at its current land use level.

We feel that with proper and close communication, agriculture and development can co-exist. Del Monte believes it has a solid future in pineapple from Hawaii as a supplier of premium, fresh pineapple to mainland markets. We are currently negotiating renewals of our leases with all land owners that will extend our leases through the expiration of the various Trusts, about 2007. I hope that this letter clarifies Del Monte's position regarding the impact of the development of the Galbraith lands.

Sincerely,

Daniel R. Wilson
Vice President & General Manager

DRW:djn

C&C/HawnTrust

PLANNING DEPARTMENT
CITY AND COUNTY OF HONOLULU
850 SOUTH KING STREET
HONOLULU, HAWAII 96813

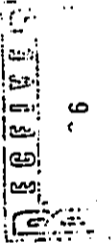


FRANKIE GASK
MAYOR

RONALD L. LIBBY, JR.
CHIEF PLANNING OFFICER
DEPARTMENT OF PLANNING OFFICER

ET 1/93-210

March 25, 1993



Ms. Gail Uyetake, Project Planner
Helber Hastert & Fee, Planners
Grosvenor Center, PRI Tower
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Draft Environmental Impact Statement (DEIS) for Wahiawa
Lands Development Amendment, Wahiawa, Central Oahu, Oahu

We have reviewed the subject DEIS and recommend the following additions and or clarifications:

1. The development proposal described in the DP amendment application differs from the description in the DEIS. The amendment application makes no reference to a proposed 4.0-acre site for sewage treatment facility. Any proposed sewage treatment facility will require a separate Development Plan Public Facilities Map Amendment application.
2. The DEIS states that solid and green waste will be recycled to minimize the amount of solid waste generated by the proposed project. The Final EIS should identify how this waste will be collected and recycled and what plans there are to locate any recycling facilities within the proposed project.
3. The issue of population should be more fully discussed, especially in regard to exceeding the General Plan population guidelines for Central Oahu. Since your projections were based on 1990 Census data, your calculations should take into account other recently approved development projects (i.e., Milliani Mauka and Waikale).

Ms. Gail Uyetake
March 25, 1993
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4. Specifics on the Community Integration Program should be included rather than reiterating the Development Plan Common Provision policies on Golf Course Development, Section 24-1.15(C).
5. The DEIS states that the State Commission on Water Resource Management (CWRM) has issued permits for almost all of the 23.0 mgd potable water sustainable yield from the Wahiawa High-Level Aquifer but that only about 10.0 mgd is being used.
The FEIS should discuss the sources of the unused 13.0 mgd allocation and the likelihood of the CWRM readjusting these permits.
6. The FEIS should provide further information regarding the extent of blasting that may be involved during construction.
7. The DEIS states that Del Monte in 1991 was cultivating about 5,690 acres of its 7,500-acre plantation. The FEIS should discuss what were the uses of the remaining acreage of the plantation.
8. The fiscal impact analysis in Appendix H should include a detailed explanation of the study's assumptions, methodology and calculations. The data in the tables could be more clearly presented to assist the reader in following the calculations. If only additional governmental costs associated with the new project are included in the cost calculations, would this present a less than full picture of the fiscal cost impacts? Similarly, are fiscal cost impacts underestimated in the early years if specific infrastructure costs, some of which may be affected by the proximity of the site to services, are not included in the calculation?
The information that is being requested should be summarized in the body of the report within the most appropriate sections. Other related sections should be revised as necessary to assure internal consistency.

Ms. Gail Uyetake
March 25, 1993
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Should you have any questions, please call Eugene Takahashi
of our staff at 527-6022.

Sincerely,

R. Foster

ROBIN FOSTER
Chief Planning Officer

RF:ft

cc: Hawaiian Trust
attn. Mike Angotti
OEQC

PLANNING DEPARTMENT
CITY AND COUNTY OF HONOLULU

805 SOUTH KING STREET
HONOLULU HAWAII 96813

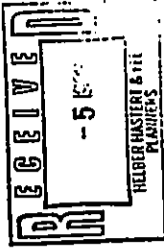


FRANK J. PABST
DIRECTOR

ROBIN FOSTER
CHIEF PLANNING OFFICER
ROLAND D. LIBBY, JR.
SENIOR CHIEF PLANNING OFFICER

BS

March 31, 1993



Ms. Gail Uyetake, Project Planner
Helber Hastert & Fee, Planners
Governor Center, PRI Tower
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Additional Comments to the Draft Environmental Impact
Statement (DEIS) for the Waiawa Lands Development Plan
Amendment, 93/CO-1, Central Oahu, Oahu

In addition to our comments of March 25, 1993 on the subject
DEIS, the FEIS should address and discuss the following items
related to the potential impacts of the proposed project on local
and regional transportation facilities:

A. Existing and future cumulative traffic impacts of the
proposed project on regional transportation facilities.

Appendix K of the DEIS, the Wilbur Smith Associates
(WSA) traffic analysis report, only addresses the
potential traffic impact of the project on the "local"
off-site roadway network up to the point of the Waiawa
H-2 Freeway Interchange.

A major concern of the department in the Central Oahu
DP area is the potential cumulative and "downstream"
impact of the project on regional transportation
facilities during peak periods. Therefore, the FEIS
should also include an analysis of future regional
traffic conditions and the adequacy of future regional
facilities (south of the Waiawa H-2 Interchange to the
Waiawa Interchange area) assuming the full construction
of all currently DP approved projects in the Central
Oahu DP area.

Ms. Gail Uyetake
March 31, 1993
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B. WSA traffic impact report calculation of internal trips.

The WSA traffic impact report states that "professional judgement" was applied to estimate a percentage of internal trips for the proposed project.

We request that the assumptions for determining the percentages be clarified and documented. For example, it is our understanding that typically, residential internal trip percentages for planned communities are closer to 11 percent. It is the department's belief that adequate local data could be accumulated from other planned communities in the region (i.e. Millilani, Village Park, etc.) to ascertain a more reliable local internal trip percentage for various land uses.

C. Clarification of assumptions and methodology used to derive peak period trips cited in Table 11 of Appendix K.

We find Table 11 of the WSA report consisting of project trip data by Internal Zones to be confusing. For example, it is questionable that a 14-acre park designated as "Zone 1" in the table would only generate 2 trips during the PM peak period when many organized recreational activities are likely to be scheduled at such a park. In addition, trips for other land uses may be significantly underestimated for the PM peak period based on current "local conditions," such as trips attributable to child care programs ("A+ Program") at the proposed elementary school that would extend into the PM peak period.

D. Determination of potential impact of the proposed project on public transit.

We request that the FEIS also address the potential impact of the proposed project on public transit in the region.

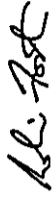
Based on the development of other planned communities in the area, we would expect the proposed project to have a significant impact on the City's public transit system. Invariably, the development of such a project would generate the need for additional public transit service in the region.

Ms. Gail Uyetake
March 31, 1993
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How many additional buses, drivers, bus shelters, etc. would the project generate? And, how would the proposed project impact existing public transit service in the area?

Thank you for the opportunity to submit the additional above comments. Should you have any questions, please call Brian Suzuki of our staff at 527-6073.

Sincerely,


ROBIN FOSTER
Chief Planning Officer

RF:ft

Hilary H. Foster
Planner



April 21, 1993
Mr. Robin Foster
Chief Planning Officer
Planning Department
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

Dear Mr. Foster:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letters dated March 25, and 31, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

March 25, 1993 letter

1. The applicant notes that the proposed wastewater treatment plant will require a separate Development Plan Public Facilities Map Amendment application. This will be initiated later this year.
2. As stated in the DEIS, recycling drop-off areas could be located within the commercial and/or residential areas of the development. Newspapers, glass, and aluminum can be deposited in designated bins and transported to local recycling centers. Specific recycling locations, collection plans and programs will be identified at a more detailed stage of project design.
3. The projected population of the development was based on an average household size per type of dwelling unit. This number (8,121) was added to the population capacity cited in the Fiscal Year 1992 Development Plan Status Review (DPSR) of 164,416. The total population (172,537) would then be in excess of the population capacity by 4.94 percent or above the General Plan population guideline for Central Oahu for 2010 by 4.63 percent. After consultation with your staff, it was determined that it would be acceptable to use the 1992 DPSR population capacity figure.

The General Plan states that the population percentages are to be taken as "guidelines." While the project would lead to potential regional population growth beyond those guidelines, that impact can be considered in relation to other policy objectives. Notably, the project will help to address the critical need for affordable housing on Oahu and will allow job-creation in upland Oahu, limiting its impact on the island transportation system.

Hilary H. Foster, Inc.
1000 Kalia Road, Suite 100
Honolulu, Hawaii 96813
Telephone: 832-7121
Telex: 832-7121

Hilary H. Foster

April 21, 1993
Mr. Robin Foster
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4. According to the Development Plan Common Provision policies on Golf Course Development, Section 24-1.15(c), a proposal to provide a community integration program by a developer is to be reviewed and accepted by the City Council at the time of a decision to rezone or to issue a plan review use permit authorizing a golf course in accordance with its development plan designation. Specifics of the proposed Community Integration Program will be determined in consultation with the Chief Planning Officer and the affected community once DP amendment approval is obtained.
5. As shown in Table 2 of the hydrological impact report (Appendix B of the DEIS), the reported use for all the wells in the Wahiawa Aquifer system in 1991 was below the authorized use. Of the wells that have been in use for five years, the average water use reported was less than the authorized use. A recent letter from DLNR (see attached) states that the CWRM staff is aware of the water use situation and is reviewing the current permitted allocation to determine whether an adjustment of the allocation figure is in order. Ensuing CWRM action may result in an increase in the unallocated aquifer supply, in which event, water might become available for the Wahiawa Lands Development project. This will be determined by the CWRM. We cannot comment on the likelihood of the CWRM readjusting these permits beyond what is stated in their letter.
6. At this stage in the development process, no estimate can be made as to the extent of blasting that may be required for construction. As stated in the DEIS (page 4-20), blasting, if required, could also produce noise impacts. However, with appropriate blast design techniques, the noise from blasting can be controlled within acceptable limits at the closest noise sensitive locations. We note that the USGS Soil Survey indicates most of the site consists of deep soils/subsoils and that most of the site has been farmed in pineapple. Rock may be encountered in the site preparation process but it is not expected to be widespread.
7. As stated in page 14 of Appendix J, Agricultural Impact Report (Decision Analysis Hawaii, Inc.), Del Monte cultivated about 5,690 acres in 1991, and used an additional 120 acres for the plantation village at Poamoho and its Kunia headquarters and plantation village complex. An additional 1,610 acres were not in cultivation, including (1) high-elevation fields, (2) roads, and (3) gullies and other lands that are unsuitable for mechanized farming. This information will be included in the body of the final EIS.
8. The fiscal impact analysis projects the balance of new revenues and costs for local government associated with development of the project. It is necessarily preliminary in that it does not include:
 - (a) the "marginal cost" of the project, i.e., specific new public costs (such as costs of road improvements borne by government agencies, not the developer) attributable to the project; or
 - (b) impact fees or assessments that might be levied against the project, and/or contributions established in any unilateral development agreement.

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The fiscal impact analysis uses an "average cost" approach, to reach an estimate of impacts on government spending independent of the particular agreements still to be worked out between government bodies and the developer.

The heart of the "average cost" method is the assumption that government spending for residents at a new site will be the same as for residents of existing areas. The assumption is in practice conservative, since (a) it implies that government services will be extended fully to new areas as population develops and (b) no adjustment is made for the likely lower-than-average cost of extending services (in many cases without additional capital improvements or staffing) from existing government facilities for a new area.

The analysis estimates the impact on government costs and revenues of locating people and jobs in a new planned community, as opposed to crowded conditions or in-fill development elsewhere on Oahu. It does not estimate all the costs and revenues associated with residents and jobs at the project site, since these people and jobs would presumably be on the island with or without the project.

Government costs (including both operations and capital costs) expected to be particularly sensitive to planned development are spending on:

- highways;
- economic and urban development;
- mass transit; and
- cash capital improvements.

To estimate increases in government spending associated with a planned development, it was assumed that spending for these functional areas would be twice as much as normal, i.e., increases over normal spending would be equivalent to the average cost per capita for these areas. These increases were projected as occurring during the construction period.

Annual cost estimates were derived from the average cost for selected functional areas in 1990, adjusted to 1992 dollars (as shown in Appendix H, Exhibits 4-K and 4-N), multiplied by the on-site resident population (in Exhibit 4-F).

Revenues expected to be sensitive to planned community development were related to construction and real property value. Other revenues (from operational cash flows) were not included.

Anticipated City and County revenues are estimated in Exhibit 4-J. It draws on assumptions about project scheduling and housing sales values developed by the market consultants for the project (Appendix I, Chapter V), and on real property tax values for comparable commercial and industrial properties in the region. Taxes are calculated on the basis of expected values and the 1992 assessments for different land and improvement categories approved by City Council.

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The fiscal impact of the project is the additional costs and revenues incurred by government with project development. Other costs would be incurred to support the population with or without the project. Since the project will not in itself add to the population of the County, these costs are not impacts of the project. (Arguably, the project could help to reduce government costs associated with social services and public safety, since the provision of affordable housing and jobs near homes should lower social stress. This line of argument has not been pursued in the fiscal analysis.)

The question of whether fiscal cost impacts are underestimated in the early years if specific infrastructure costs are not included in the calculation will only be possible when government agencies have estimated the infrastructure costs they are willing to bear in advance of project development. The possibility exists that early impacts could be underestimated. However, the cumulative balance of revenues to costs for the City and County shown in Exhibit 4-L is 2.2 to 1, allowing considerable margin for a time lag between costs and offsetting revenues.

It should be noted that capital outlays and debt service amount to about one-third of the City and County's budget. New capital outlays associated with development (not with ongoing City and County operations) are only part of that capital budget. As a general rule, then, it is likely that early capital costs for new infrastructure would be outweighed by costs for operations and capital outlays needed to support operations for the population associated with the project. In other words, the bulk of government costs would probably follow development, not precede it.

March 31, 1993 letter

1. Pursuant to your request, the project engineer performed an analysis of the project's traffic increases and impact on service level along the H-2 Freeway. Table 1 (attached) shows the level of service criteria for a freeway. Table 2 (attached) indicates the estimated peak hour traffic volumes by the Year 2010 and the projected conditions for the H-2 Freeway south of the project area both with and without the project.

The sections of the H-2 Freeway north of the Waipio Interchange are expected to operate at acceptable levels both with and without the project. However, traffic operations are expected to operate Level of Service (LOS) F at the southern end of the H-2 Freeway either with or without the project. The estimate project traffic, which amounts to approximately 400 vehicles in the peak travel direction during both the AM and PM peak hours, would increase the volume-to-capacity ratios on this segment by 0.05 in each hour.

Mitigation of Year 2010 freeway conditions could be accomplished by widening the H-2 Freeway from four lanes in each direction to five between the Waipio Interchange and the Waiawa Interchange. With this widening, all freeway segments would operate at LOS E or better. It should be noted that this mitigation would be necessary with or without the proposed project. Alternatively, increased transit use, rideshare programs, telecommuting, increased emphasis on employment uses, and other transportation systems management action could be

Hilbert H. Hertz
Planner

April 21, 1993
Mr. Robin Foster
Page 6

used to reduce the forecast traffic levels to within the planned capacity of the H-2 Freeway.

B. The percentages of internal trips listed on Page 14 of the traffic study (Appendix K of the DEIS) are for the trip ends for specific land uses. When the numbers of trips for the various land uses are combined and adjusted so as not to double count the trip by counting both ends of the internal trip, the proportion of trips which remain internal to the project approximate 15 percent of total trips. This is slightly higher than the 11 percent cited in your letter. However, this higher percentage is attributed to the mix of land uses proposed for the project area.

The proposed plan includes a large amount of office, retail and other non-residential uses, which increases the proportion of internal trips as project area residents travel to these internal uses for work, shopping and business purposes. As an example, the PM peak hour trips generated by the planned uses are almost balanced between residential (55 percent) and non-residential (45 percent). Thus, a higher proportion of resident trips would remain within the project area than is typical for other suburban communities on Oahu.

Current commute to work patterns from Central Oahu show that about a third of the work or work-linked trips are made within Central Oahu. The remaining two-thirds are made to and from areas outside Central Oahu. This indicates that employment opportunities within Central Oahu are not great enough to support Central Oahu employment demand. The proposed development would add significant employment opportunities, and it is reasonable to assume that the employment component would offer an attractive opportunity to draw new residents to the development area, who would also prefer to work close to their residence location. This provides further support for using a slightly higher internal trip percentage for the residential component of the project.

C. The traffic engineer used standard accepted trip rates from the Institute of Transportation Engineers *Trip Generation Fifth Edition* and the SANDAG's *San Diego Traffic Generators*. The rates are based on data gathered across the United States. Although local behavior could result in slightly different trip generation characteristics for specific land uses, the national rates are generally reflective of conditions on Oahu.

D. There are currently two transit routes which directly serve the project area - Route 52, Wahiawa Circle Island and Route 72, Schofield-Wahiawa-Whitmore. Route 52 operates along Kamehameha Highway in the project area but circles the island providing access to the employment centers on the south shore and to the north shore. The bus runs every 30 minutes during the morning, midday, and afternoon periods. Route 72 currently operates between Wahiawa and Whitmore Village within the project area, and also serves Schofield Barracks. It operates on a 40-minute frequency.

Based on existing travel behaviors within Central Oahu, about 3.4 percent of the external home-based work trips and 6.9 percent of home-based other trips would

be accomplished using The Bus. Assuming the same travel behaviors in the project area, the project would generate about 612 daily transit trips, 56 AM peak hour transit trips, and 71 PM peak hour transit trips from its housing, retail, school, civic, and park components. In addition, some transit trips would be generated by the employment-based land uses.

This number of new transit trips could impact the level of transit service, but the real project impact on transit would be the need to serve the project area more directly with transit. This may not necessitate the provision of a new or expanded transit route within the project area. Discussion with the Honolulu Public Transit Authority during the planning phase indicated that the Authority was not studying any new routes for this area at that time.

The applicant has proposed the construction of a five-acre park-and-ride lot within the project area. This lot would provide 500 or more parking spaces. In addition, based on a review of the development plan, the internal roadway design would allow for convenient access by buses. No determination of appropriate transit routes or potential transit stops has been made yet, as it would be inappropriate to attempt to generate this type of precise data at this stage of the project.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

HELBER HASTERT & FEE, Planners



Gail M. Uyetake
Project Planner

Enclosures

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

FORM 15-1
3-80



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
HONOLULU HAWAII 96813

REF:OCEA:SKK

MAR 25 1993

FILE NO.: 93-428
DOC. NO.: 2440

The Honorable Robin Foster
Chief Planning Officer
Planning Department
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Foster:

SUBJECT: Draft Environmental Impact Statement (DEIS) for the
Wahiawa Lands Development, Wahiawa, Oahu, TMK: 7-1-001:
por. 1, 5-8, por. 11-13, por. 20-21, 25-29, por. 30, 31, 32

The following are our Commission on Water Resource Management (CWRM)
comments for the subject development which supplement those contained in
our previous letter of March 12, 1993:

Commission on Water Resource Management

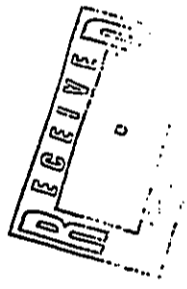
The project is situated in a water management area wherein the use of any
ground water for the project will be regulated by CWRM.

The developer contemplates the drilling of new wells off-site to provide
the estimated 2.9 mgd of potable-quality water needed for the project. As
noted in the DEIS, the sustainable yield of the underlying Wahiawa Aquifer
is 23.0 mgd, of which 22.5 mgd has already been allocated for use via
permits issued by the CWRM. This would leave an unallocated balance of
0.5 mgd that conceivably would be available for future allocation.

While it may appear that the unallocated supply would not be sufficient to
provide the project's 2.9 mgd requirement and that supplemental water
would need to be obtained from outside the local aquifer system, the
developer has indicated that enough water would, in fact, be available
within the Wahiawa Aquifer system for this project. The developer
contends, however, that to officially declare that water beyond the
unallocated 0.5 mgd amount is available, the Commission:

Keith M. Ahue, Chairperson
BOARD OF LAND AND NATURAL RESOURCES

- DEPARTMENT OF LAND AND NATURAL RESOURCES
- DEPARTMENT OF WATER RESOURCES
- DEPARTMENT OF HEALTH
- DEPARTMENT OF TRANSPORTATION
- DEPARTMENT OF AGRICULTURE
- DEPARTMENT OF COMMERCE
- DEPARTMENT OF EDUCATION
- DEPARTMENT OF ENVIRONMENTAL AFFAIRS
- DEPARTMENT OF FINANCE
- DEPARTMENT OF GENERAL SERVICES
- DEPARTMENT OF HUMAN RESOURCES
- DEPARTMENT OF LABOR
- DEPARTMENT OF LAND AND NATURAL RESOURCES
- DEPARTMENT OF PUBLIC SAFETY
- DEPARTMENT OF REVENUE
- DEPARTMENT OF SOCIAL SERVICES
- DEPARTMENT OF TOURISM
- DEPARTMENT OF VETERANS AFFAIRS
- DEPARTMENT OF WATER RESOURCES
- DEPARTMENT OF ZONING



Mr. R. Foster

-2-

Doc. No.: 2440

"must first adjust (lower) the authorized water use of wells in the
Wahiawa Aquifer by reason of partial or total non-use for a period of
four continuous years or more. The Commission has taken such actions
in the Pearl Harbor Hydrologic Sector where existing authorized uses
and requested new water uses have exceeded the sustainable yield. As
shown in Figure 16, the actual water use (1991) reported to the CWRM
in the Wahiawa Aquifer totals 10,067 mgd, or 12,464 less than the
authorized use. Thus, ground water for the proposed project could
possibly be made available from the CWRM by applying for a new water
use permit." (Page 6-13 of DEIS)

The CWRM staff is aware of the water use situation and is reviewing the
current permitted allocation to determine whether an adjustment of the
allocation figure is in order. Ensuing CWRM action may result in an
increase in the unallocated aquifer supply, in which event, water might
become available for the Wahiawa Lands Development project. This
possibility, however, remains to be determined by the CWRM.

Water for the irrigation of the golf course fairways and landscaped areas
of the project, amounting to about 0.78 mgd, is proposed to be obtained
from perched surface runoff mixed with effluent from the project's
wastewater treatment system. Here, the developer has indicated that they
would work with the Department of Health (DOH) to ensure that the DOH's 12
conditions applicable to all new golf course developments would be
complied with.

Further, with respect to the project's drainage system, the developer is
reminded that any alteration of the banks of Kauhakaha Gulch or Wahiawa
Reservoir occasioned by the installation of the drainage works may require
a Stream Channel Alteration Permit (SCAP) from CWRM.

We will forward our Historic Preservation Division comments as they become
available.

Please feel free to call Steve Tagawa at our Office of Conservation and
Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,

John P. Keppeler
JOHN P. KEPPELER

cc: Michael Argotti
Gail Uyetake
OEDC

MAR 25 1993

Response to Comment Table 2

YEAR 2010 PEAK HOUR FREEWAY VOLUMES AND OPERATIONS
Wahiawa - Galbraith Lands Traffic Study - Response to Comments

Freeway Segment	ESTIMATED CAPACITIES		YR 2010 WITHOUT THE PROJECT						YR 2010 WITH THE PROJECT					
	NB/WB	SB/EB	NB/WB			SB/EB			NB/WB			SB/EB		
			Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS
AM PEAK HOUR														
H-2 Freeway														
Between Wahiawa and Milani	8,800	8,800	5,056	0.57	C	5,271	0.60	C	5,419	0.62	C	5,657	0.64	C
Between Milani and Waipio	8,800	8,800	5,525	0.63	C	5,915	0.67	C	5,886	0.67	C	6,301	0.72	C
Between Waipio and Waiawa	8,800	8,800	7,895	0.90	E	10,137	1.15	F	8,256	0.94	E	10,523	1.20	F
PM PEAK HOUR														
H-2 Freeway														
Between Wahiawa and Milani	8,800	8,800	6,422	0.73	C	5,376	0.61	C	6,859	0.78	D	5,822	0.66	C
Between Milani and Waipio	8,800	8,800	7,312	0.83	D	6,057	0.69	C	7,749	0.88	D	6,503	0.74	C
Between Waipio and Waiawa	8,800	8,800	10,453	1.19	F	10,031	1.14	F	10,892	1.24	F	10,477	1.19	F

Source: Wilbur Smith Associates, April 1993.

RCT2/MOR

Response to Comment Table 1

LEVEL-OF-SERVICE CRITERIA FOR FREEWAYS
Wahiawa - Galbraith Lands Traffic Study - Response to Comments

Level of Service	FREE-FLOW SPEED 60 MPH		Maximum Service Flow Rate (pcphpl)
	Average Speed (MPH)	Maximum V/C Ratio	
A	60	0.33	720
B	60	0.55	1,200
C	59	0.75	1,650
D	57	0.89	1,940
E	55	1.00	2,200

NOTES:
Los F is characterized by highly unstable and variable traffic flow.
pcphpl = passenger cars per hour per lane.

Source: "Highway Capacity Manual", Revised Chapter 7, Page 7-8; and Wilbur Smith Associates, October, 1992.

INCT/MOR

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
830 SOUTH KING STREET
HONOLULU HAWAII 96813



FRANK P. KAM
DIRECTOR

JOSEPH M. MAGALDI, JR.
DIRECTOR
DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

TE-544
PL93.1.048

March 29, 1993

MEMORANDUM

TO: ROBIN FOSTER, CHIEF PLANNING OFFICER
PLANNING DEPARTMENT

FROM: JOSEPH M. MAGALDI, JR., DIRECTOR

SUBJECT: WAHIAWA LANDS DEVELOPMENT
DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
THK: 7-1-1: POR. 1, 5-8, POR. 11-13, POR. 20,
POR. 21, 25-29, POR. 30 AND 32

This is in response to the DEIS submitted to us for review on February 8, 1993 by the Office of Environmental Quality Control.

A roadway master plan for all major streets should be submitted to our office and should include roadway cross-sections and laneage; schematic intersection details and turning lanes; locations of restricted vehicular access; anticipated land use, size, number of dwelling units and/or buildable commercial floor area of each site; a phasing schedule; and other details, as required.

Should you have any questions, please contact Lance Watanabe of my staff at local 4199.

cc: Hawaiian Trust Company, Ltd.
Helber Hastert & Fee, Planners
Office of Environmental Quality Control

JOSEPH M. MAGALDI, JR.



April 20, 1993
Mr. Joseph M. Magaldi, Jr.
Director
Department of Transportation Services
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

Dear Mr. Magaldi:
Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your memorandum to the Chief Planning Officer dated March 29, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

A roadway master plan for all major streets will be submitted to your office at the time more detailed design is available. This plan will include roadway cross-sections and laneage; schematic intersection details and turning lanes; locations of restricted vehicular access; anticipated land use, size, number of dwelling units and/or buildable commercial floor area of each site; a phasing schedule; and other details as required.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

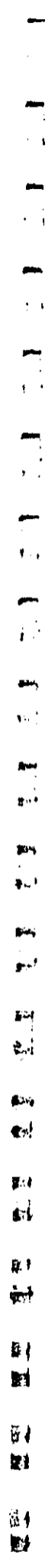
Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Helber Hastert & Fee, Planners
1100 Bishop Street, Suite 2200
Honolulu, Hawaii 96813



April 20, 1993

Mr. Kazu Hayashida
Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, HI 96843



Dear Mr. Hayashida:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your memorandum to the Chief Planning Officer dated April 1, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

1. The project hydrologist, Water Resource Associates, provided an analysis of the impact of the urbanization of the subject property on recharge and sustainable yield. The 918-acre proposed project would affect 800 acres of land planted in pineapple and 118 acres of open land. The estimated loss of groundwater recharge due to removal of 800 acres from pineapple cultivation is 2.0 mgd and the estimated loss due to urbanization of 118 acres of open area is 0.15 mgd, for a total of 2.15 mgd. These estimates are based on the results of Shade (1991) Distribution of Ground Water Recharge, Oahu, Hawaii. However, the estimated 2.15 mgd loss of recharge will be offset to some extent by direct rainfall infiltration on some 333 acres of parks and recreation areas and the possible use of an estimated 0.78 mgd of treated wastewater effluent for irrigation. Further offset would occur from any use of holding ponds and dry wells for a portion of runoff. Any loss of recharge would proportionately affect sustainable yield of the higher-level aquifer. According to the project hydrologist, total offset could be on the order of 1.0 mgd, resulting in a loss of recharge of just over 1.0 mgd.
2. The withdrawal of 2.9 mgd of ground water for the project from the Wahiawa aquifer is expected to be included as a part of the 23.0 mgd sustainable yield limit that has been set by the Commission on Water Resource Management (CWRM). This equilibrium limit for the Wahiawa aquifer system takes into consideration that ground water from the Wahiawa system spills into the Pearl Harbor and Waialua aquifer systems. Although the CWRM has issued permits for almost all of the 23.0 mgd, actual water use during the past five years (1987-1991) has averaged only 10 mgd. In this situation, the CWRM may adjust the existing authorized use and reallocate the unused portion to existing and/or new wells. The applicant will be required to obtain the necessary well construction and water use permits from the CWRM.

3. The use of tertiary treated effluent for landscape irrigation will be coordinated with the State Department of Health to avoid contamination of groundwater resources in the area.

Helber Hasterert & Fee, Inc.
1111 Bishop Street, Suite 2000
Honolulu, Hawaii 96813
Telephone: 535-4100
Telex: 580415 HST

Helber Hasterert & Fee, Inc.

April 20, 1993
Mr. Kazu Hayashida
Page 2

4. The applicant notes that BWS-approved reduced pressure principle backflow prevention assemblies should be installed on the domestic water lines immediately after the property valves of all parcels served by the nonpotable water system.
5. The final EIS will include a discussion of the reservoir design requirements cited in your letter.

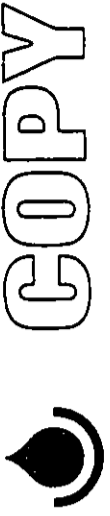
We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

HELBER HASTERERT & FEE, Planners

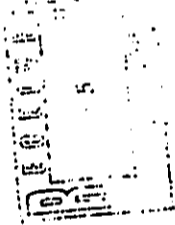
Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.



April 1, 1993

Mr. Robin Foster
Page 2
April 1, 1993



TO: ROBIN FOSTER, CHIEF PLANNING OFFICER
PLANNING DEPARTMENT

FROM: KAZU HAYASHIDA, MANAGER AND CHIEF ENGINEER
BOARD OF WATER SUPPLY

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS) FOR THE
PROPOSED WAHIAWA LANDS DEVELOPMENT (GALBRAITH TRUST
ESTATE), TMK: 7-1-1: PORTION 1, 5, 6, 7, 8, PORTION 11,
PORTION 12, PORTION 13, PORTION 20, PORTION 21, 25, 26, 27,
28, 29, PORTION 30, AND 32

Thank you for the opportunity to comment on the Draft EIS for the proposed Wahiawa Lands Development project. Our pre-assessment comments of September 21, 1992 which are included in Chapter 12 of the EIS are still applicable.

We have the following additional comments:

1. The Groundwater Resources and Supply report should address the impact of the urbanization, particularly the loss of recharge from agricultural operations, on the sustainable yield of the Wahiawa High-Level Aquifer.
2. The report should also address the effect of increased withdrawal from the Wahiawa aquifer on the sustainable yields of the adjacent Pearl Harbor and Waihua aquifers. The Wahiawa groundwater system is regarded as being in equilibrium at the current water use levels and therefore, any additional permitted uses should be coordinated with the State Commission on Water Resource Management.
3. We concur with the use of nonpotable water for irrigation of the proposed golf course. Nonpotable irrigation should be extended to all large landscaped areas within the proposed development whenever such a supply is available, in accordance with Board of Water Supply (BWS) Rules and Regulations. However, appropriate measures should be taken to prevent the contamination of our groundwater resource in that area. The use of treated wastewater effluent for irrigation should be coordinated with the State Department of Health.

4. BWS approved reduced pressure principle backflow prevention assemblies should be installed on the domestic water lines immediately after the property valves of all parcels served by the nonpotable water system.
5. On Page 6-13 Utilities and in the Infrastructure Report, Page 5, Reservoirs: The reservoir spillways should be at the same elevation and the minimum and maximum allowable water system pressures are 40 psi and 125 psi, respectively.

If you have any questions, please contact Bert Kuioka at 527-5235.

cc: Hawaiian Trust Company, Ltd.
Helber Hastert & Fee, Planners

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DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU

850 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK FAN
DIRECTOR

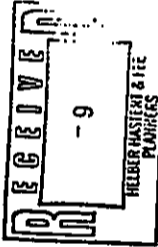
WALTER M. OZAWA
DIRECTOR
ALVIN K. AN
DEPUTY DIRECTOR

March 5, 1993

TO: ROBIN FOSTER, CHIEF PLANNING OFFICER
PLANNING DEPARTMENT

FROM: WALTER M. OZAWA, DIRECTOR

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
WAHIAWA LANDS DEVELOPMENT
TAX MAP KEY 7-1-01: POR. 1 ET AL



We have met with the applicant to discuss the recreational plans for the Wahiawa Lands Development as shown in Figure 4 on the Concept Master Plan. The public park system for the project was determined to be unacceptable based on our park and facility standards and the existing park facilities located in the Whitmore and Wahiawa communities.

Our comments and recommendations to the project's public park requirements have been addressed in the report, Section 6.7, Recreation Facilities. We are working with the applicant to establish an acceptable public park plan. The plan will locate the number, size and configurations of the public parks required for the project and should be reflected in all future applications submitted to the City for approvals.

Should you have any questions, please contact Jason Yuen of our Advance Planning Branch at extension 6115.

Thank you for the opportunity to comment on the DEIS.

For WALTER M. OZAWA, Director

MHO:ei

cc: Hawaiian Trust (Michael Angotti)
Helbert Haster & Fee (Gail Uyetake)

Helbert Haster & Fee
Planners

April 20, 1993

Mr. Walter M. Ozawa
Director
Department of Parks and Recreation
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

Dear Mr. Ozawa:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 5, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

Subsequent to our meeting with your staff on February 11, 1993, the concept plan was revised to reflect the recommendations made at the meeting. In summary, the proposed community park was enlarged to 20 acres and relocated nearer the town center, and the neighborhood park, originally sited near the town center was moved to the area just south of the Kukanihiko State Historic Park site. Per State Department of Education request, the plan was also revised to include one 12-acre elementary school site, located to the south of the community park. This will be a self-contained facility with its own play areas.

This revised plan was forwarded to your staff who has advised us that the changes in the plan meet your department's requirements. We will continue to work with your department to ensure that the final park plan will be acceptable.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS. Sincerely,

HELBERT HASTER & FEE, Planners

Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Helbert Haster & Fee
Planners

1110 Bishop Street, Suite 720
Honolulu, Hawaii 96813

Tel: phone 240-1111
Fax: mod. 240-11-2404

We Add Quality to Life

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

590 SOUTH KING STREET
HONOLULU, HAWAII 96813



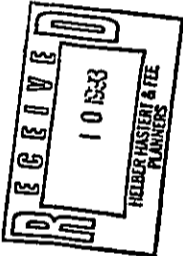
PAINE & FARR
MAYORS

C. MICHAEL STREET
DIRECTOR AND CHIEF ENGINEER

FELIX S. LIMSIACO
DEPUTY DIRECTOR

ENV 93-59

March 5, 1993



MEMORANDUM

TO: MR. ROBIN FOSTER, CHIEF PLANNING OFFICER
PLANNING DEPARTMENT

FROM: C. MICHAEL STREET, DIRECTOR AND CHIEF ENGINEER

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
WAHIAWA LANDS DEVELOPMENT
THK:VARIOUS

We have reviewed the subject DEIS and have the following comments:

1. A drainage master plan should be submitted to the Drainage Section, Division of Engineering, for review and approval.
2. Streets and roadways to be dedicated to the City should be improved in accordance with City standards.
3. Access improvements for pedestrians and persons with disabilities should conform to the Uniform Federal Accessibility Standards.
4. Frontage improvements on existing roadways may be required.
5. The DEIS should state what structural or non-structural best management practices (BMP) will be provided to control and reduce discharge of pollutants as a result of the construction and/or dewatering activities.
6. Although we have no objection to the privately owned wastewater treatment plant (WWTP) for the subject development, we question as to who will own and operate the proposed wastewater pump station (WWPS) and force main (FM).

MR. ROBIN FOSTER
PAGE 2
MARCH 5, 1993

7. Even though the WWPS and FM are private facilities, they should be designed and constructed in accordance with City standards and be properly operated and maintained by licensed operators.
8. It should be noted that the owners of the private facilities shall be held responsible for any spills or damages to private properties and/or the environment resulting from failures of the facilities.
9. Final construction plans for the proposed WWTP, WWPS and FM must be submitted to us for information.
10. A wastewater master plan for the gravity sewer system must be submitted to the Division of Wastewater Management for review and approval.
11. The gravity sewer system may be dedicated to the City as long as all sewers are located in roadways and sewer easements that are dedicated to the City. The gravity sewer system should also be designed and constructed to City standards.

Should there be any questions, please contact Alex Ho, Environmental Engineer, at 523-4150.

C. Michael Street
C. MICHAEL STREET
Director and Chief Engineer

cc: Hawaiian Trust Company, Ltd. (Michael Angotti)
Helber Hastert & Fee, Planners (Call Uyetake)

bcc: Division of Engineering
Division of Wastewater Management

Helber Hastert
Planners

April 13, 1993

Mr. C. Michael Street
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

Dear Mr. Street:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 5, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

1. A drainage master plan will be submitted to the Drainage Section, Division of Engineering, for review and approval when the project reaches a more detailed stage of design.
2. Streets and roadways to be dedicated to the City will be improved in accordance with City standards.
3. Access improvements for pedestrians and persons with disabilities will conform to the Uniform Federal Accessibility Standards.
4. The applicant acknowledges that frontage improvements on existing roadways may be required.
5. The structural or non-structural best management practices (BMP) which will be provided to control and reduce discharge of pollutants as a result of construction and/or dewatering activities will be covered by the erosion control plan to be submitted to the City at the detailed design phase. This plan will be required to obtain a City grading permit and may include BMP such as the treatment of all construction phase runoff produced by the development in temporary sediment retention basins, and the provision of vegetative filters to remove sediment and chemical pollutants.
6. The current plan proposes a privately-owned wastewater treatment plant (WWTP). The wastewater pump station (WWPS) and force main (FM) would likely be owned by a community association and operated by a private contractor.

It should be noted that the applicant will continue to work closely with the State Department of Health, the City's new Department of Wastewater Management, and the Army in planning for a regional wastewater treatment system which meets the needs of the growing Central Oahu region.

Helber Hastert & Inc.
Consulting Engineer, P.H.D. Tower
733 Bishop Street, Suite 2700
Honolulu, Hawaii 96813
Telephone: (808) 515-2055
Facsimile: (808) 515-2050

Helber Hastert
Planners

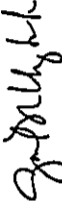
April 13, 1993
Mr. C. Michael Street
Page 2



7. The WWPS and FM will be designed and constructed according to City standards and will be properly operated and maintained by licensed operators.
8. It is noted that the owners of the private facilities will be held responsible for any spills or damages to private properties and/or the environment resulting from failures of the facilities.
9. Final construction plans for the proposed WWTP, WWPS and FM will be submitted to your department for information when they are available.
10. A wastewater master plan for the gravity sewer system will be submitted to the Division of Wastewater Management for review and approval when it is available.
11. It is noted that the gravity sewer system may be dedicated to the City as long as all sewers are located in roadways and sewer easements that are dedicated to the City. The gravity sewer system will be designed and constructed to City standards.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.
Sincerely,

HELBER HASTERT & FEE, Planners


Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust
Mr. James Schuler, Schuler Homes, Inc.

DEPARTMENT OF HUMAN RESOURCES
CITY AND COUNTY OF HONOLULU

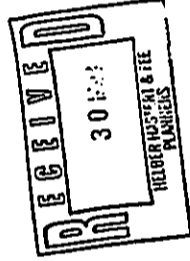
STANDARD FINANCE BUILDING
715 SOUTH KING STREET, 2ND FLOOR
HONOLULU, HAWAII 96813 • (808) 527-1311



FRANK Z. FASI
MAYOR

VICTOR GUILLERMO, JR.
DIRECTOR
RUDY PACARRO
DEPUTY DIRECTOR

March 23, 1993



Mr. Brian J. Choy, Director
Office of Environmental Quality Control
State of Hawaii
220 South King Street, Fourth Floor
Honolulu, Hawaii 96813

Dear Mr. Choy:

Subject: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
WAHIAWA LANDS DEVELOPMENT
TMK: 7-2-001: POR. 1; 5; 6; 7; 8; POR. 11; POR 12; POR 13; POR.
20; POR. 21; 25; 26; 27; 28; 29; POR. 30; AND 32.

The Department of Human Resources has reviewed the Draft Environmental Impact Statement for the proposed project cited above and offers the following comments:

- (1) We note that in addition to the planned 3100 residential units, approximately 3410 direct operations employment jobs are likely to be generated within the proposed project by the year 2010. In our comments of September 24, 1992 regarding the draft concept development plan (Attachment), we cited potential child care demands that may be created by the proposed project. Given the addition of the employment projections contained within the DEIS, we believe the need for affordable and quality child care services by residents and employees working within the Wahiawa Lands Development civic center, school areas, commercial, industrial, & other business enterprises, and recreational facilities will need to be addressed by the applicant in the further development of the proposed project.

Wahiawa Lands Development - DEIS
March 23, 1993
Page Two

- (2) We are pleased to note the applicant's commitment towards providing affordable, elderly and/or other special needs housing within the proposed project. We offer the services of our Department's Elderly Affairs Division in the development of the project's elderly housing component as the project continues to evolve.

Thank you for the opportunity to comment on this matter.

Sincerely,

VICTOR D. GUILLERMO, JR.
Director

Attachment

cc: Brian Suzuki
Department of General Planning
Michael Angotti
Hawaiian Trust Company, Ltd.
Gail Uyeake
Helber Hastert & Fee, Planners

Helber Haster
Planners

April 12, 1993

Mr. Victor D. Guillerme, Jr.
Director
Department of Human Resources
City and County of Honolulu
715 South King Street, 2nd Floor
Honolulu, HI 96813

Dear Mr. Guillerme:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 23, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

1. The applicant is aware that child care services will be needed by both residents and employees working at the development. The proposed concept plan identifies areas for civic and other public facilities which could include child care centers.
2. The applicant will continue to consult with your department to ensure that the proposed project meet anticipated human service needs, including elderly and/or other special needs housing.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

HELBER HASTERT & FEE, Planners


Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Helber Haster & Fee
Customer Center, 1111 First

711 Bishop Street, Suite 2701
Honolulu, Hawaii 96813

Telephone: 808-515-2055
Facsimile: 808-515-2051



3/93-741

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU

630 SOUTH KING STREET, 5TH FLOOR
HONOLULU, HAWAII 96813
PHONE: (808) 533-4327 • FAX: (808) 537-8488



E. JAMES TURSE
DIRECTOR
GAIL M. UYETAKE
PROJECT PLANNER

March 16, 1993

MEMORANDUM

TO: ROBIN FOSTER, CHIEF PLANNING OFFICER
PLANNING DEPARTMENT

FROM: E. JAMES TURSE, DIRECTOR

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
WAHIAWA LANDS DEVELOPMENT

We have reviewed the subject DEIS and understand that at least 60 percent of the homes in the project will be in the affordable range in accordance with State and City guidelines.

The proposed development does not conflict with any current or proposed City project. The Department of Housing and Community Development does not oppose the proposed development.

Should you have any questions, please contact Jason Ching of our Planning and Analysis Division at 523-4368.

Thank you for the opportunity to comment.

Paul Kato
E. JAMES TURSE
Director

RECEIVED

'93 MAR 23 AM 7:45

PLANNING DEPT.
C&C HONOLULU

Helbert Hasterst
Planners



April 14, 1993

Mr. E. James Turse
Director
Department of Housing and Community Development
City and County of Honolulu
630 South King Street, 5th Floor
Honolulu, HI 96813

Dear Mr. Turse:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your memorandum dated March 16, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

We note that the proposed development does not conflict with any current or proposed City project, and that your department does not oppose the proposed development.

We appreciate your review of the DEIS. Your memorandum will be reproduced in the final EIS.

Sincerely,

HELBER HASTERST & FEE, Planners

Helbert Hasterst

Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Telephone: (808) 537-2655
Facsimile: (808) 537-2629

233 Hahaione Street, Suite 220
Honolulu, Hawaii 96813

Helbert Hasterst & Fee
Construction Center, 1911 Tower

U.S. DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU
801 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96813 - AREA CODE (808) 538-3111



FRANK E. GASI
MAYOR

MICHAEL S. NAKAMURA
CHIEF
HAROLD M. KAWASAKI
DEPUTY CHIEF

OUR REFERENCE CS-1X

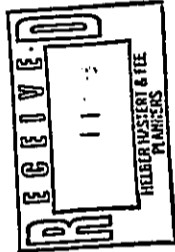
March 8, 1993

TO: ROBIN FOSTER, CHIEF PLANNING OFFICER
DEPARTMENT OF PLANNING

ATTENTION: BRIAN SUZUKI, PLANS REVISION BRANCH

FROM: MICHAEL S. NAKAMURA, CHIEF OF POLICE
HONOLULU POLICE DEPARTMENT

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR WAHIAWA
LANDS DEVELOPMENT PROJECT



We have reviewed the subject document as requested and have the following comments to offer.

The projected addition of 3,100 households/8,000 residents to the area will have a definite impact on the facilities and services offered by the Honolulu Police Department.

Further, because this project will be close to Wahiawa's shopping and business center, there will undoubtedly be bicycle and foot traffic between the two. There should be some kind of provision to ensure the safety of pedestrians and bike riders as they enter and exit the project.

In addition, proposed traffic related measures such as highway improvements to increase capacity, increased bus service, support of car-pools, limited parking facilities to encourage use of public transportation will all contribute toward alleviating some of the traffic problems. However, we are still concerned about the overall impact 3,100 households will have in compounding the existing traffic problems in the immediate area and as the same vehicles converge around the urban center.


In an effort to minimize calls for police service during the construction phase of the project, we are recommending that:

Robin Foster -2- March 8, 1993

1. Every attempt, e.g. using barricades, watering, etc., be made to minimize dust from blowing into the neighboring community.
2. Construction noise be monitored regularly; it should not be allowed to exceed the State Department of Health's standard.

Thank you for the opportunity to comment.

MICHAEL S. NAKAMURA
Chief of Police

BY: 
CHESTER E. HUGHES
Assistant Chief of Police
Support Services Bureau

cc: Office of Environmental Quality Control
Hawaiian Trust Company, Ltd.
Heber Hastert & Fee Planners.

Helber Hasterst
Planners

April 5, 1993

Mr. Michael S. Nakamura
Chief of Police
Police Department
City and County of Honolulu
801 South Beretania Street
Honolulu, HI 96813

Dear Chief Nakamura:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 8, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

The applicant acknowledges that the development will have an impact on the facilities and services offered by the Honolulu Police Department. Right-of-way improvements to Wilikina Drive and Kamehameha Highway, the two major links between the project and Wahiawa, will include sidewalks and either wider shoulder lanes or designated lanes for bicycle traffic. The applicant will coordinate right-of-way improvement plans with the State Department of Transportation, the City Department of Transportation Services and your office to assure the safety of pedestrians and bike riders.

As noted in the DEIS, traffic volumes in the vicinity of the development will increase to unacceptable levels of service with or without the project. With the proper mitigation measures, levels of service at the affected roadway sections and intersections are expected to be within acceptable levels of services in future conditions with the project.

As you recommend in your letter, every attempt will be made to minimize air quality impacts to neighboring communities during the construction phase. Construction noise will be monitored regularly and will adhere to the State Department of Health standards.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

HELBER HASTERST & FEE, Planners


Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Helber Hasterst & Fee
Government Center, 11th Floor
711 Hekaha Street, Suite 2700
Honolulu, Hawaii 96813
Telephone: 808-515-2055
Facsimile: 808-515-2040

HONOLULU PUBLIC TRANSIT AUTHORITY
CITY AND COUNTY OF HONOLULU
PACIFIC PARK PLAZA, SUITE 275
711 KAPOLAHU BOULEVARD
HONOLULU HAWAII 96813



FRANK FEE
1992

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JAMES L. O'SULLIVAN
EXECUTIVE DIRECTOR

258-93

February 17, 1993

MEMORANDUM

TO: ROBIN FOSTER, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

ATTN: BRIAN SUZUKI

FROM: JAMES L. O'SULLIVAN, EXECUTIVE DIRECTOR
HONOLULU PUBLIC TRANSIT AUTHORITY

SUBJECT: KAHAWA LANDS DEVELOPMENT DEIS

This is in response to the recent memorandum from the State of Hawaii Office of Environmental Quality Control requesting comments on the subject matter.

Rather than the two (2) acres shown in the document, we would like to see a minimum of five (5) acres specifically designated for a park-and-ride facility.

A 2-acre site would provide accommodations for only 150 vehicles. With 2,890 family units to be occupied by year 2010, a park-and-ride facility of such limited size for the anticipated population (8,121) is inadequate. The statements from the consultant, "The plan allocates a 2-acre park-and-ride facility with a 2-acre and a separate 3-acre 'civic' area adjacent to the major project entry at Kamanuui Road. We intend to work closely with your department and other government and civic organizations to integrate the park-and-ride facility into the larger civic area to maximize the appeal and use of the facility," do not address our concern. We want to encourage rideshare and mass transit in commuting from this community to and from Honolulu and Kapolei rather than driving individually in automobiles. Co-mingling of parking facilities created for different purposes is not the answer.

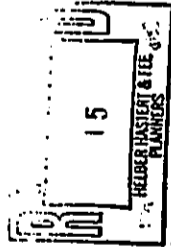
Robin Foster
February 17, 1992
Page 2

If you have any questions or need more information, please contact Howard K. Takara, Chief, Bus Systems Division, at 523-4138.

James L. O'Sullivan
JAMES L. O'SULLIVAN

cc: Hawaiian Trust Company, Ltd. (Michael Angotti)
Heiber Mastert & Fee, Planners (Gail Uyetake)

HONOLULU PUBLIC TRANSIT AUTHORITY
CITY AND COUNTY OF HONOLULU
 PACIFIC PARK PLAZA, SUITE 275
 711 KAPOLIANI BOULEVARD
 HONOLULU, HAWAII 96813



PAKINE E FASI
 MAILBOX

BOARD OF DIRECTORS
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 WILLIAM SPENCER, JR.
 JAMES L. O'SULLIVAN
 EXECUTIVE DIRECTOR

April 13, 1993

Ms. Gail Uyetake, Project Manager
 Helber Hastert & Fee, Planners
 Grosvenor Center, PRI Tower
 733 Bishop Street, Suite 2590
 Honolulu, Hawaii 96813

Dear Ms. Uyetake:

Subject: 1993 Development Plan Annual Amendment Review
 Central Oahu Development Plan Land Use
 Application for Wahiawa Lands Master Plan
 (Galbraith Trust), Folder No. 93/CO-1

We have reviewed the concept plan transmitted by your subject letter dated March 15, 1993, and concur with the 5 acres of land set aside for a future park and ride facility.

Should you have any questions regarding this matter, please call Morris Watanabe of my staff at 523-4725.

Sincerely,

James L. O'Sullivan
 JAMES L. O'SULLIVAN
 Executive Director

Hi-Hwa Hwa-wei
 Hwa-wei



April 20, 1993

Mr. James L. O'Sullivan
 Executive Director
 Honolulu Public Transit Authority
 City and County of Honolulu
 Pacific Park Plaza, Suite 275
 711 Kapiolani Boulevard
 Honolulu, HI 96813

Dear Mr. O'Sullivan:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letters dated February 17, and April 13, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

We met with your staff on March 1, 1993 to review your agency's requirements for the park-and-ride facility. The proposed concept plan was subsequently revised to include a 5-acre park-and-ride facility at the entrance to the project along Kamananui Road. We note from your letter of April 13 that you have reviewed the revised plan and concur with the size and location of the future park-and-ride facility.

We appreciate your review of the DEIS and revised concept plan. Your letters will be reproduced in the final EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyetake

Gail M. Uyetake
 Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust
 Mr. James Schuler, Schuler Homes, Inc.

HELBER HASTERT & FEE, PLANNERS
 733 BISHOP STREET, SUITE 2590
 HONOLULU, HAWAII 96813
 TEL: 523-4725
 FAX: 523-4726

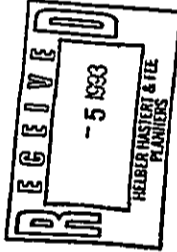
Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu HI 96840 0001

Helber Haster
Planners

March 2, 1993



William A. Bonnet
Manager
Environmental Department



Mr. Brian Suzuki
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

Dear Mr. Suzuki:

Subject: Draft Environmental Impact Statement (DEIS)
for the Wahiawa Lands Development
Wahiawa District, Oahu, Hawaii

We have reviewed the subject DEIS and have no comments on the proposed development. HECO shall reserve comment pertaining to the protection of existing powerlines bordering the development area until construction plans are finalized.

Sincerely,

cc: Michael Angotti, Hawaiian
Trust Co., Ltd.
Gail Uyetake, Helber
Hastert & Fee, Planners

An HEI Company

April 12, 1993

Mr. William A. Bonnet
Manager
Environmental Department
Hawaiian Electric Company, Inc.
P.O. Box 2750
Honolulu, HI 96840-0001

Dear Mr. Bonnet:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 2, 1993 responding to our request for comments on the above-referenced DEIS. We note that you have no comments on the proposed development, and that HECO reserves comment pertaining to the protection of existing powerlines bordering the development area until construction plans are finalized.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.
Sincerely,

HELBER HASTER & FEE, Planners

Gail M. Uyetake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Helber Haster & Fee
Government Center, 1100 Times

733 Bishop Street, Suite 2700
Honolulu, Hawaii 96813

Telephone: (808) 535-2055
Facsimile: (808) 535-2050

March 8, 1993

Department of General Planning
City and County of Honolulu
650 S. King Street
Honolulu, HI 96813

Attention: Brian Suzuki

Re: Wahiawa Lands Development
Draft Environmental Impact Statement

Gentlemen:

WE ARE SENDING THE FOLLOWING: ATTACHED

- PRELIMINARY DRAWINGS FINAL DRAWINGS
- STANDARD DRAWINGS SPECIFICATIONS

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REMARKS: Thank you for the opportunity to comment on the Draft Environmental Impact Statement for the Wahiawa Lands Development Project. We have no further comments to this project until it moves into the design phase.

If there are any questions, please call Garret Hayashi at 834-6262.

Garret Hayashi
Winslow I. Tanabe
Operations Manager
OSP Engineering

cc: Hawaiian Trust Co., Ltd.
P. O. Box 3170
Honolulu, HI 96802-3170
Attn: Michael Angotti

Helber Hastert & Fee, Planners
733 Bishop Street, Ste. 2590
Honolulu, HI 96813
Attn: Gail Uyeake

F. Aluea
R. Seo
Fie



April 12, 1993

Mr. Winslow I. Tanabe
Operations Manager
OSP Engineering
GTE Hawaiian Telephone Company, Inc.
P.O. Box 2200
Honolulu, HI 96841

Dear Mr. Tanabe:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 8, 1993 responding to our request for comments on the above-referenced DEIS. We note that you have no further comments to this project until it moves into the design phase.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Helber Hastert
Gail M. Uyeake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

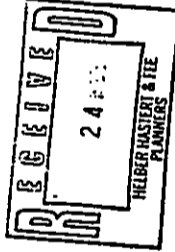


WAHIAWA NEIGHBORHOOD BOARD NO. 26

P.O. BOX 876 • WAIHAWA, HAWAII 96796

March 22, 1993

Mr. Robin Foster
Chief Planning Officer
City and County of Honolulu
650 S. King Street
Honolulu, HI 96813



Dear Mr. Foster:

At its March 15, 1993 meeting the Waialua Neighborhood Board discussed the Draft Environmental Impact Statement for the Galbraith Estate Waialua Lands Project. After hearing comments from representatives of the Galbraith Estate, Waialua residents, and other interested citizens, the Board voted to oppose the project for the following reasons:

1. The project relies upon transportation improvements to the intersections in Waialua, to Kamehameha Highway, and to Foot Bridge which may not be in place until 2005. These improvements should be installed before the project traffic overloads the current roadway.
2. Strong resident opposition exists to the loss of the open views of the Waianae and Koolau Ranges, and the verdant fields of pineapple which have been a scenic fixture of Waialua.
3. The project's plan for a municipal golf course as opposed to a park for runoff containment is also questioned.
4. The conversion of prime agricultural land to urbanization is also an issue. The development is proposed for some of the best agricultural land in the state.
5. A task force of citizens, community groups, government, and business recently developed a long range plan for development in Central Oahu and the North Shore. This task force recommended preservation of the agricultural open space which the Galbraith development will destroy.
6. The loss of agricultural land may jeopardize the viability of Del Monte Corporation's pineapple operations, resulting in loss of jobs and business competition. If workers are to be displaced, some provision should be made for re-training assistance.
7. The Hawaiian community has many objections to this development. Their concerns are as follows:
 - A. These lands are rightfully Hawaiian lands and should be returned to Hawaiian sovereignty.
 - B. The entire area extending from Kukanihiko to many miles around is sacred and should not be developed.



Oahu's Neighborhood Board System - established 1973

WAHIAWA NEIGHBORHOOD BOARD NO. 26
GALBRAITH ESTATE WAHIAWA LANDS DEVELOPMENT
PAGE 2

- C. The stones at Kukanihiko have astronomical significance. Development should not impair this feature.
- D. Suspicion that archaeologists hired by the developer do an inadequate job of surveying the land for historical significance. Therefore, an impartial and more detailed study of the area should be undertaken.
8. The adequacy of the medical infrastructure in the area to support the projected increase in population should be addressed.
9. The impact on our presently overburdened wastewater treatment plants is a concern.
10. Questions exist regarding the adequacy of current water sources to supply project needs, and the potential degradation of water quality from these additional demands.
11. Concern that the business and government focus of Waialua will be shifted to the new development, thus leading to the deterioration and loss of businesses in Waialua town.
12. Citizen concerns that affordable homes are affordable by state definition only. Most Waialua households still cannot afford what is supposedly affordable.

Thank you for your consideration of these comments.

Sincerely,
John B. "Jack" Kaupfer
John B. "Jack" Kaupfer
Chairman

cc: Department of Land Utilization
Councilmember Rene Mansho
Planning Commission
Office of Environmental Quality Control
Land Use Commission
Department of Land and Natural Resources
Senator Gerald Hegino
Representative Robert Bunda
Ben Acotido, Waialua Neighborhood Board
Roy Doi, MCEA
Hawaiian Trust Company, Ltd.
Halber Kastert & Fee, Planners

April 15, 1993

Mr. John B. Kampfer
Chairman
Wahiawa Neighborhood Board No. 26
P.O. Box 876
Wahiawa, HI 96786

Dear Mr. Kampfer:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 22, 1993 responding to our request for comments on the above-referenced DEIS. We appreciated the Board's invitation to its March 15, 1993 meeting, and feel that we learned much about the community's concerns about the project and the future of Wahiawa. We have reviewed the reasons listed in your letter for the Board's opposition to the project and offer the following responses.

1. The traffic impact analysis report prepared by Wilbur Smith Associates and included in the DEIS as Appendix K analyzed Phase I (1998) and ultimate year (2010) impacts of Phase I of the project and identified necessary mitigation measures. Phase I improvement (1998) required to support 600 homes would include some minor restriping, Kamananui Road widening, and a new traffic signal at the Kamananui/Wiikina Drive intersection. Between 1998 and 2010, major additional improvements such as the widening of both Thot and Wiikina Bridges, will be required to maintain adequate levels of service. As we have discussed, the State has included the widening of Thot Bridge on its long-range plan. In the event the State is unable to pay for widening, the applicant will have to cover the costs, in addition to the costs of widening the Wiikina Bridge as well as the other major improvements identified in the traffic impact analysis report. The State and County will condition development approvals to assure that the required infrastructure improvements are developed in a timely manner. The Neighborhood Board would have the opportunity to monitor the developer's compliance with these conditions.

2. While the project will irreversibly alter the views of and across the property, the plan endeavors to preserve the open space quality along significant public view corridors, such as along Kamehameha Highway, through the siting of golf course fairways, parks and significant landscaped setbacks for urban uses. While views of pineapple fields have long been associated with Wahiawa, we believe that the opportunities afforded to the community by the project (e.g. provision of affordable housing, employment, increased access to public recreation facilities, and commitment to significant open space within the development) will balance its resulting visual impacts. Existing views of the Waianae and Koolau ranges will not be significantly impaired.

April 15, 1993
Mr. John B. Kampfer
Page 2



3. The proposed golf course is planned as a public, affordable fee course which will serve civil engineering (e.g. stormwater retention) requirements and meet public recreation demand.

4. Although the project will result in the loss of about 800 acres of prime agricultural lands over a five- to seven-year phase-out period, the applicant intends to make a long-term commitment of 1,300 acres to the north of Kamananui Road to agriculture. Hawaiian Trust Company, Ltd. has worked very closely with Del Monte to come up with a plan that would minimize impact to the plantation and its workers. As noted in the attached letter from Dan Wilson, General Manager of Del Monte's Hawaii operations, Del Monte feels that the commitments and agreements it has made with Hawaiian Trust will allow it to remain a significant force in the Hawaii pineapple industry for years to come. He also notes that they have already found 400 acres of replacement land in the Kunia area.

5. As cited on page 3-29 of the DEIS, the Central Oahu/North Shore Regional Plan was drafted between December 1990 and December 1991 in consultation with the Neighborhood Board and committees which reviewed reports from agencies, landowners, developers, and community organizations. Planning for the Wahiawa Lands project commenced in January 1992, and therefore, the project was not discussed or reviewed by the Task Force. There is no way of determining how the plan would have been received by the group. Based on the analytical framework established by the Task Force, the project would likely be evaluated with respect to its impacts on specific issues or areas of concern such as preservation of the agricultural industry and open space, provision of affordable and special needs housing, diversification of the economic base, creation of new employment opportunities, protection of environmental resources, support for innovative planning approaches to minimize dependency on automobiles, development of adequate supporting infrastructure, and creation/enhancement of recreational opportunities (among others).

It is recognized that community plans are dynamic and must be flexible to changing conditions. The proposed plan is sensitive to, and consistent with many of the issues raised in the Central Oahu/North Shore draft report, and is clearly inconsistent with others. This mix of compatibility is reflective of diverse community attitudes and the natural push and pull of competing public policies.

6. The applicant believes that Del Monte will find replacement lands in Kunia to move to, and is presently working with Del Monte in leasing 1,300 acres to the north of Kamananui Road. Accordingly, we do not believe that the project will jeopardize Del Monte's operations, nor does Del Monte as represented in Mr. Wilson's letter. The applicant acknowledges that re-training and job placement assistance, suggested by Mr. Pi Galdeira at the meeting, may be necessary in the event that pineapple workers are displaced as a result of the project. (It may be appropriate to offer the retraining and job placement assistance even if pineapple workers are not displaced.) The applicant is willing to work with the affected parties and relevant human services organizations and agencies to address this

April 15, 1993
Mr. John B. Kampfer
Page 3

situation. It should be recognized that as the State's economy moves away from the plantation system of agricultural production, job displacement and retraining will be a statewide rather than local issue, and should accordingly be addressed on that level.

7. The applicant recognizes that the cultural issues surrounding the development are important and complex, and require continued consultation and dialogue with relevant parties and groups. The applicant has and will continue to consult with parties interested in the cultural and historical issues surrounding the development.

A. Claims of Hawaiian sovereign rights over the Galbraith lands are not within the jurisdiction or scope of this project to resolve. Parties are free to pursue such claims in the courts. We are not aware of any legal basis for such a claim nor have such claims been filed to date.

B. While the applicant is respectful of the view that the cultural value of Kukaniloko extends beyond the boundaries of the historic site owned by the State, it also recognizes that existing urbanized areas (Wahiawa town, Whitmore Village, Poamoho Camp, Schofield Barracks, Mililani, Mililani Mauka, etc.) fall within the area described at the meeting as being "sacred" and not to be developed. The applicant has made a good faith effort to mitigate possible impacts to the cultural and historic site surrounding the development by providing an additional six acres of park buffer space around Kukaniloko to be conveyed to the State, as well as retaining the areas adjacent to the enlarged park site open and low-rise in character. The State Historic Preservation Division (SHPD) has reviewed the concept plan and determined that the land uses proposed for the areas surrounding Kukaniloko would be appropriate. We are enclosing a copy of the SHPD letter for your information.

C. View corridor studies from Kukaniloko to the Waianae and Koolau ranges were prepared at the request of the DLNR State Parks Division to analyze the visual impacts, if any, that the development might have on these important views. We will forward a copy of the study to your attention next week. Findings from the analysis indicate there will be no significant impairment of existing views of the mountain ranges from Kukaniloko, and that low vegetative screening at the perimeter of the 11-acre park would be sufficient to screen out development from within the Historic Park.

D. SHPD has reviewed the archaeological inventory survey report prepared by Paul H. Rosendahl, Inc. and expects to conclude that survey techniques were sufficient to identify all historic sites once minor revisions to the report are completed (see enclosure). We note that notwithstanding unsubstantiated claims made at the Board meeting, we have received no communication, verbal or written (with the exception of several requests for clarification from SHPD mentioned above), indicating any inadequacies in the study. The study has had broad review as part of the DEIS public review process.

April 15, 1993
Mr. John B. Kampfer
Page 4

and we believe it has provided a thorough and well-documented discussion of the historic resources associated with the Galbraith lands.

8. Per the comment made at the meeting, the FEIS will disclose that the increase in population associated with the development will increase the demand for health care services in the area. As noted in the DEIS (page 5-12), health care facilities and providers are potential tenants of the business center proposed in the plan. Because of the physical constraints on the existing Wahiawa General Hospital and a single medical arts building serving the community, the subject property would be attractive for a large health care facility. Other potential tenants include regional family practice clinics of major Oahu health care providers, along with associated physicians' offices and limited laboratory facilities.

9. The existing City-operated Wahiawa treatment plant will not be affected by the development. The applicant proposes to build a 4.61 million gallon per day private tertiary-level wastewater treatment plant to process the wastewater generated by the development. Treated effluent from this facility will be used to irrigate the public golf course and other common landscaped areas. As suggested at the meeting, treated effluent will not be used as an irrigation source in the vicinity of Kukaniloko. Excess effluent can be used by surrounding agricultural operators, with the unused balance discharged into Wahiawa Reservoir.

10. As stated in the DEIS, the State Commission on Water Resource Management (CWRM) regulates groundwater use from designated areas and the State Department of Health (DOH) oversees regulations protecting groundwater resources from pollution. The CWRM determines how much water can be withdrawn from the aquifer over time without jeopardizing the groundwater quality. This amount of water is called the sustainable yield. Although the CWRM has issued permits for water use for the Wahiawa Aquifer (in which the project is located) which approach the established sustainable yield limits, actual water use reported is less than half of the sustainable yield.

A recent letter from DLNR (see attached) states that the CWRM staff is aware of the water use situation and is reviewing the current permitted allocation to determine whether an adjustment of the allocation figure is in order. Ensuring CWRM action may result in an increase in the unallocated aquifer supply, in which event, water might become available for the Wahiawa Lands Development project. This will be determined by the CWRM.

As described in the DEIS, the proposed development lies over the Wahiawa High-Level Aquifer, and any use of the project lands, whether for the proposed urban development or for its current use of pineapple cultivation, has the potential to result in contamination of the groundwater below. This is true for other areas which overlie the aquifers of Central Oahu. However, based on findings from hydrogeological and soil chemistry studies included in the DEIS, it is expected that the proposed project will not pose a significant threat to the supply and quality of the underlying groundwater aquifer if developed within existing environmental guidelines and appropriate mitigative measures.

April 15, 1993
Mr. John B. Kampfer
Page 5

11. The applicant is aware of the concern that the business and government focus of Wahiawa may shift to the proposed development, and reiterates that it is the project's intention to reinforce Wahiawa as the regional urban center. The development team has met with numerous community groups over the past several months to begin the process of identifying how the project could complement the existing business and civic resources in Wahiawa, rather than compete. The development team has been very active in making itself available for consultation and presentations to groups and individuals in the Wahiawa community, and hopes to continue to work closely with these groups in the coming months. We feel strongly that the increased household disposable income and employment opportunities brought into the Wahiawa area by the project will generate significant civic, business and commercial opportunities in Wahiawa, both in terms of increased demand for existing services and demand for new services.

12. The addition of a significant number (3,100) of dwelling units to the existing housing stock on Oahu will tend to mitigate or reduce rising housing prices overall by meeting more of the demand. The sale price of "affordable housing" is calculated yearly by the State for each of the four counties based on the median income of each County. We have included a schedule prepared by the State Housing Finance and Development Corporation (HFDC) which provides information regarding actual sales prices if homes were available today. The actual sales prices will vary with (1) family size, (2) available mortgage interest rates, and (3) family income. For example, a family of four earning \$36,800 per year (80 percent of the Honolulu County median income) could afford to pay \$118,000 for a single-family home or \$101,300 for a multi-family home, assuming a 30-year mortgage interest rate of 8.75 percent and a five percent downpayment (\$5,900 and \$5,065, respectively). (Mortgage rates are at an all-time low now which means that households can afford to buy more home for a given income.) The home prices are all adjusted annually by HFDC based on Oahu's median income. Thus, if median income remains stable, so will the home prices.

The project will also include rental homes (probably apartments) for those not able to buy. HFDC also maintains a schedule of affordable rent for each county (also attached). For example, a family of four earning 50 percent of the median household income (say \$23,000/year) would be expected to pay \$575 per month for rent.

We appreciate your review of the DEIS and the work of your Planning and Zoning Committee in analyzing the complex issues involved. We hope the foregoing responses and the attached information will resolve at least some of the Board's concerns. We will continue to forward new information to your attention as it becomes available. Please do not hesitate to inform us of any additional concerns or comments that arise regarding the

April 15, 1993
Mr. John B. Kampfer
Page 6

development. We look forward to continuing this dialogue with the Board as the project proceeds. Your letter and this response will be reproduced in the final EIS.

Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyelake
Project Planner

Enclosures

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.



Del Monte Fresh Produce (Hawaii) Inc.

Daniel R. Wilson
Vice President
General Manager

April 6, 1993

Mr. Robin Foster
Chief of Planning
Planning Department
City and County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813

Dear Mr. Foster:

Local newspaper accounts of the proposed development of Galbraith Estate lands by Hawaiian Trust have indicated severe impacts on the Del Monte pineapple operation. I am writing this letter to be certain that your department clearly understands that these accounts have significantly overstated probable impacts. Del Monte believes that the Galbraith lands Master Plan will allow us to remain a major force in the Hawaii pineapple industry. The proposed development will remove approximately 900 acres of land from agriculture, currently used for the cultivation of pineapple, and convert it to predominately affordable housing. However, positive steps are being taken by Hawaiian Trust and Del Monte to mitigate any impact.

From the initiation of the development proposal, Del Monte's position has been very clear. The land is owned by the Galbraith Trust, not by Del Monte and, therefore, Del Monte is not in a position and would not take a position of dictating to the land owner what should occur with the land. Our lease with the Galbraith Estate expires at the end of 1994. We fully intend to renew the lease on the balance of the land not under development and, therefore, would not want to oppose the development of the land. That issue clearly is between Hawaiian Trust, the Galbraith heirs and the City and County of Honolulu.

The Hawaiian Trust group handling the development, led by Mike Angotti, has been very helpful in assisting Del Monte to find replacement land, and in working with Del Monte for a smooth and orderly transition from the development lands. Because of Hawaiian

Mr. Robin Foster
April 6, 1993
Page Two

Trust's close coordination with Del Monte, we have been able to adjust our planting schedules and are not required to have replacement lands until 1999. As discussed in the EIS Report, we will require 400 acres of replacement land in 1999, and in 2001, 400 additional acres. It is necessary for us to obtain replacement land, but not necessarily in the short term. We have discussed additional land with two land owners, Robinson Trust and Campbell Estate, to identify potential replacement lands and both are interested in working with us.

To date, we have identified 400 acres of replacement land currently not in cultivation that could be used to replace the 1999 land requirement. Additional replacement land has been identified and may be available sooner, depending upon the continuation of Oahu Sugar at its current land use level.

We feel that with proper and close communication, agriculture and development can co-exist. Del Monte believes it has a solid future in pineapple from Hawaii as a supplier of premium, fresh pineapple to mainland markets. We are currently negotiating renewals of our leases with all land owners that will extend our leases through the expiration of the various Trusts, about 2007. I hope that this letter clarifies Del Monte's position regarding the impact of the development of the Galbraith lands.

Sincerely,

Daniel R. Wilson
Vice President & General Manager

DRW:djn

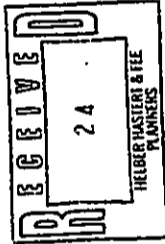
C&C/HawnTrust



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 8TH FLOOR
HONOLULU, HAWAII 96813

DEPARTMENT OF LAND AND NATURAL RESOURCES
DEPT. HEADQUARTERS
1505 KALANOAU AVENUE
HONOLULU, HAWAII 96813
ADULTICULTURE DEVELOPMENT PROGRAM
ADULTICULTURE RESOURCES
CONSERVATION AND ENVIRONMENTAL AFFAIRS
CONSERVATION AND RECREATION DIVISION
CONSERVATION AND RECREATION DIVISION
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

LOG NO: 7816
DOC NO: 9303TD15



March 22, 1993

Mr. Brian Suzuki
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Suzuki:

SUBJECT: Draft Environmental Impact Statement (DEIS), Waiahua Lands Development (File No. 93-428)
Waiahua, O'ahu
TMK: 2-1-1: 5-8, 25, 26, 31, 32, por. 11, por. 29, por. 30

Thank you for the opportunity to review this project.

A draft archaeological inventory survey report for this project (Henry, Walker, and Rosendahl November 1992) is included as Appendix G of the DEIS. We have responded directly to the archaeologists with some minor requests for revisions, and we anticipate that the report will soon be acceptable.

These lands are adjacent to State Site 50-80-04-218, Kukanihiko, which was placed on the National Register of Historic Places in 1973 and has been actively preserved for over 60 years. The State has recently acquired title to about 5 acres of land at this site and long-term preservation and interpretive display will fall to the Department of Land and Natural Resources, Division of State Parks. We note that the master plan includes an 11 acre Kukanihiko Park, and we interpret this to mean that an additional six acres of Galbraith Trust Lands will be used as a buffer between development and the 5 acre parcel managed by State Parks. We further note that development plans for the lands adjacent to the 11 acres call for a golf course and, across the road, a community park and single family residences. We believe that low-rise, low-density development is appropriate for the area surrounding this important historic site, and that there is an opportunity to make considerable improvements to the present preservation and interpretive display of the site.

MAR 23 1993

Brian Suzuki
Page 2

Except for the land immediately adjacent to Kukanihiko and some narrow strips of land along the Waiahua reservoir and Poamoho and Tunnel Stream gulches, all of the project's lands are cultivated in pineapple. Predictably, no surface historic sites were found in the pineapple fields. A single historic site (50-80-04-4571) was found outside of the project area boundaries on the north bank of Poamoho Stream. Test excavations at various locations indicate that buried cultural deposits are also absent. When the minor revisions to the inventory survey report are complete we will conclude that survey techniques were sufficient to identify all historic sites, and that one historic site was identified (50-80-04-218). We will concur with the determination that site 218 is significant for its information content, as a good example of a sacred birth-stone site, and that it has traditional cultural significance to the Hawaiian ethnic group.

The applicant makes the commitment on page 4-26 and 4-27 to consult with the Division of State Parks and preservation groups to provide for the appropriate preservation and interpretive measures for Kukanihiko. We recommend that these consultations include consideration of view corridors from Kukanihiko that might be culturally significant.

If you have any questions please call Tom Dye at 587-0014.

Sincerely,

DON HIBBARD, Administrator
State Historic Preservation Division

TD:bek

c: Michael Angotti, Hawaiian Trust Company, Ltd.,
Gail Uyetake, Helber, Hastert & Fee, Planners,

DATE RECD
COUNTY OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
PO BOX 41
HONOLULU, HAWAII 96813

Keith W. Ahue, Chairperson
BOARD OF LAND AND NATURAL RESOURCES

PLANNING
ZONING
LAND DEVELOPMENT
AGRICULTURE
WATER RESOURCES
CONSERVATION
COUNCIL ON LAND AND NATURAL RESOURCES
PLANNING AND ZONING
LAND AND NATURAL RESOURCES
PLANNING AND ZONING
LAND AND NATURAL RESOURCES
PLANNING AND ZONING
LAND AND NATURAL RESOURCES

Mr. R. Foster

-2-

Doc. No.: 2440

"must first adjust (lower) the authorized water use of wells in the Waialae Aquifer by reason of partial or total non-use for a period of four continuous years or more. The Commission has taken such actions in the Pearl Harbor Hydrologic Sector where existing authorized uses and requested new water uses have exceeded the sustainable yield. As shown in Figure 16, the actual water use (1991) reported to the CWRM in the Waialae Aquifer totals 10.067 mgd, or 12.464 less than the authorized use. Thus, ground water for the proposed project could possibly be made available from the CWRM by applying for a new water use permit." (Page 6-13 of DEIS)

The CWRM staff is aware of the water use situation and is reviewing the current permitted allocation to determine whether an adjustment of the allocation figure is in order. Ensuing CWRM action may result in an increase in the unallocated aquifer supply, in which event, water might become available for the Waialae Lands Development project. This possibility, however, remains to be determined by the CWRM.

Water for the irrigation of the golf course fairways and landscaped areas of the project, amounting to about 0.78 mgd, is proposed to be obtained from ponded surface runoff mixed with effluent from the project's wastewater treatment system. Here, the developer has indicated that they would work with the Department of Health (DOH) to ensure that the DOH's 12 conditions applicable to all new golf course developments would be complied with.

Further, with respect to the project's drainage system, the developer is reminded that any alteration of the banks of Kaulaohua Gulch or Waialae Reservoir occasioned by the installation of the drainage works may require a Stream Channel Alteration Permit (SCAP) from CWRM.

We will forward our Historic Preservation Division comments as they become available.

Please feel free to call Steve Tagawa at our Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

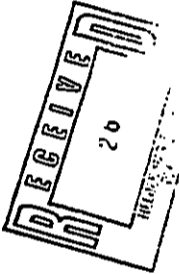
Very truly yours,

Keith W. Ahue
KEITH W. AHUE

cc: Michael Argotti
Gail Oyetake
DEDC

FILE NO.: 93-428
DOC. NO.: 2440

MAR 25 1993



The Honorable Robin Foster
Chief Planning Officer
Planning Department
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Foster:

SUBJECT: Draft Environmental Impact Statement (DEIS) for the
Waialae Lands Development, Waialae, Oahu, TMK: 7-1-001:
por. 1, 5-8, por. 11-13, por. 20-21, 25-29, por. 30, 31, 32

The following are our Commission on Water Resource Management (CWRM) comments for the subject development which supplement those contained in our previous letter of March 12, 1993:

Commission on Water Resource Management

The project is situated in a water management area wherein the use of any ground water for the project will be regulated by CWRM.

The developer contemplates the drilling of new wells off-site to provide the estimated 2.9 mgd of potable-quality water needed for the project. As noted in the DEIS, the sustainable yield of the underlying Waialae Aquifer is 23.0 mgd, of which 22.5 mgd has already been allocated for use via permits issued by the CWRM. This would leave an unallocated balance of 0.5 mgd that conceivably would be available for future allocation.

While it may appear that the unallocated supply would not be sufficient to provide the project's 2.9 mgd requirement and that supplemental water would need to be obtained from outside the local aquifer system, the developer has indicated that enough water would, in fact, be available within the Waialae Aquifer system for this project. The developer contends, however, that to officially declare that water beyond the unallocated 0.5 mgd amount is available, the Commission:

AFFORDABLE RENT SCHEDULE FOR OAHU.
THE 1992 MEDIAN INCOME FOR A FAMILY OF 4 IN THE C&C HONOLULU IS:
AFFORDABLE RENTS ARE BASED ON 30% OF INCOME (INCLUDING UTILITIES).

\$46,000

% OF MEDIAN	1 PERSON	2 PERSON	3 PERSON	4 PERSON	5 PERSON	6 PERSON	7 PERSON	8 PERSON
10%	81	92	104	115	124	133	143	152
20%	161	184	207	230	248	267	285	304
30%	242	276	311	345	373	400	428	455
40%	322	368	414	450	497	534	570	607
50%	403	460	518	575	621	667	713	759
55%	443	508	569	633	683	734	784	835
60%	483	552	621	690	745	800	856	911
65%	523	598	673	748	807	867	927	987
70%	564	644	725	805	869	934	998	1,063
75%	604	690	776	863	932	1,001	1,070	1,139
80%	644	736	828	920	978	1,035	1,093	1,150
85%	684	782	880	978	1,039	1,100	1,161	1,222
90%	725	828	932	1,035	1,100	1,164	1,229	1,294
95%	765	874	983	1,093	1,161	1,229	1,297	1,366
100%	805	920	1,035	1,150	1,222	1,294	1,366	1,438

092RENT, 5/22/92

1992 AFFORDABLE SALES PRICE GUIDELINES (FAMILY OF FOUR)

COUNTY:	HONOLULU																			
% of Median \$ Income	50%	60%	70%	80%	90%	100%	110%	120%	130%	140%	150%	160%	170%	180%	190%	200%				
Single Family	87,300	84,200	101,100	118,000	134,900	151,800	168,700	185,600	202,500	219,400	236,300	253,200	270,100	287,000	303,900	320,800				
Multi-Family	50,500	67,400	84,300	101,200	118,100	135,000	151,900	168,800	185,700	202,600	219,500	236,400	253,300	270,200	287,100	304,000				
COUNTY:	HAWAII																			
% of Median \$ Income	50%	60%	70%	80%	90%	100%	110%	120%	130%	140%	150%	160%	170%	180%	190%	200%				
Single Family	44,100	56,300	68,500	80,700	92,900	105,100	117,300	129,500	141,700	153,900	166,100	178,300	190,500	202,700	214,900	227,100				
Multi-Family	27,300	39,500	51,700	63,900	76,100	88,300	100,500	112,700	124,900	137,100	149,300	161,500	173,700	185,900	198,100	210,300				

1. Based on 1992 median income established by HUD for a family of four.
 2. 30 year mortgage.
 3. Housing expense of 22% of income.
 4. CTF for single family units (\$25 RPT, \$45 fee income, \$30 mortgage insurance) or CTF of \$25 for multi-family units (\$10 plus \$15 for maintenance and association dues).
 5. Down payment of 5% @ up to 14%; 10% @ 15%-17%; 20% @ 18%-20%.
 6. Median income and new construction sales price limits as follows:
 Effective 5/21/92:
 3+ persons 1 or 2 persons
 Honolulu \$41,100 \$32,400 New construction price
 Other \$30,100
 Counties \$34,900 \$47,400 \$194,540

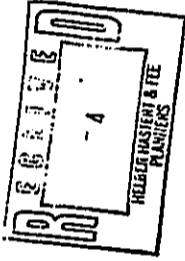
4/9902, 5/21/92



CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII 96813-3085 / TELEPHONE 523-4000

RENE MANSHO
COUNCILMEMBER
CHAIR OF TRANSPORTATION
COMMITTEE
(PH 13-04)

March 2, 1993



Department of General Planning
Re: Wahiawa Lands Development

Page 2
March 2, 1993

Mr. Brian Suzuki
Department of General Planning
City & County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813

Dear Mr. Suzuki:

SUBJECT: Wahiawa Lands Development

I would like to offer the following comments relative to the Draft Environmental Impact Statement (DEIS) related to the proposed Wahiawa Lands Development by the Galbraith Trust Estate.

Traffic Operations

As shown on Table 12, levels of service are unacceptable on Kamehameha Highway where it intersects with Olive Avenue, California Avenue, and Kilani Avenue. Unacceptable levels of service would also occur at Wilikina Drive/Kunila Road, Kaukonahua Highway/Kamananui Road and would further deteriorate conditions at Wilikina Drive/Kamananui Road. Further congestion would also occur on the Southbound on-ramp to the H-2 Freeway.

Even with mitigation to improve traffic conditions around these intersections, the level of service would still be unacceptable at many of these intersections.

Agricultural Impacts

The proposed 918 acre project will result in the loss of 800 acres of prime agriculture lands.

While the final report of the Central Oahu/North Shore Task Force has yet to be printed, the task force identified this as an area which should be maintained for productive agricultural uses (whether it be pineapple, sugarcane or diversified agriculture) and should be protected in a manner similar to those lands within the State Conservation District.

Further, the task force identified this area as an area they would like to see maintained in open space as a "green belt" area in the event sugar and pineapple operations are no longer viable.

Therefore, unless traffic measures are significantly improved and until the negative agricultural impact has been resolved, I cannot support the proposed Wahiawa Lands Development project.

Sincerely,

Rene Mansho
Councilmember

RM:mk

cc: Michael Angotti, Hawaiian Trust
Gail Uyetake, Helber Haster & Fee
Wahiawa Neighborhood Board
Wahiawa Community & Business Assoc.

Helber Haster
Planners

Helber Haster
Planners

April 16, 1993
Councilmember Rene Mansho
Page 2

April 16, 1993

Councilmember Rene Mansho
City Council
City and County of Honolulu
530 South King Street
Honolulu, HI 96813-3065

Dear Councilmember Mansho:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 2, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments and offer the following responses.

Traffic Operations

As noted in your letter, Table 12 of the traffic impact analysis report prepared by Wilbur Smith Associates indicates the conditions with the project in 2010 at certain intersections with no mitigation will be at unacceptable levels of service. However, as seen in Tables 13 and 14, 2010 conditions with the proposed mitigation would be within acceptable levels of service (see attached tables). We realize that growth in the District will lead to increased congestion, delays during the construction period, etc. The determination of appropriate design and timely implementation of roadway and other infrastructure improvements will be an important part of the City Council's oversight responsibility in the entitlement process.

Agricultural Impacts

As you know, the Central Oahu/North Shore Regional Plan was prepared between December 1990 and December 1991 under your guidance and in consultation with committees which reviewed reports from agencies, landowners, developers, and community organizations. Planning for the Wahiawa Lands project commenced in January 1992, and therefore, the project was not discussed or reviewed by the Task Force. There is no way of determining how the plan would have been received by the group. Based on the analytical framework established by the Task Force, the project would likely be evaluated with respect to its impacts on specific issues or areas of concern such as preservation of the agricultural industry and open space, provision of affordable and special needs housing, diversification of the economic base, creation of new employment opportunities, protection of environmental resources, support for innovative planning approaches to minimize dependency on automobiles, development of adequate supporting infrastructure, and creation/enhancement of recreational opportunities (among others).

It is recognized that community plans are dynamic and must be flexible to changing conditions. The proposed plan is sensitive to, and consistent with many of the issues

Helber Haster & Co.
Environmental Planners, P.H.I. Team

231 Hihimanu Street, Suite 270
Honolulu, Hawaii 96813

Telephone: 808-515-2025
Facsimile: 808-515-2020



raised in the Central Oahu/North Shore draft report, and is clearly inconsistent with others. This mix of compatibility is reflective of diverse community attitudes and the natural push and pull of competing public policies.

The agricultural impact assessment conducted for the EIS indicated that the site is not suitable for sugarcane growth or diversified agriculture due to economic and market demands (high water pumping costs, continued unprofitability of sugarcane production, very modest land requirements for diversified crops, etc.). The impact assessment also discussed the gradual phase-out plan for about 800 acres of pineapple land and the applicant's commitment to issue long-term leases on 1,300 acres of Galbraith Trust lands (north of Kamanui Road) to Del Monte.

The attached letter from Dan Wilson, General Manager for Del Monte's Hawaii operations, states that he is working closely with Hawaiian Trust and that he is confident that commitments and agreements made between the two parties will allow Del Monte to remain a "major force in the Hawaii pineapple industry." He notes he has already located 400 acres of replacement lands in Kunia and is optimistic that his ongoing discussions with the Robinson and Campbell Estates will yield additional lands.

In conclusion, we believe that traffic impacts to Wahiawa and surrounding areas have been appropriately mitigated as presented in the DEIS, and that potential negative agricultural impacts to Del Monte will be avoided. Notwithstanding these findings, the applicant recognizes that constant diligence will be required to include the community in its planning for the project, and to adapt and respond to changing community concerns and issues.

We hope this response will cause you to reconsider your position on the project. In any event, we appreciate your continued input and advice and look forward to working with you in the coming months. Your letter will be reproduced in the final EIS.

Sincerely,

HELBER HASTER & FEE, Planners

Gail M. Uyetake
Project Planner

Enclosure

cc: Mr. Michael Angoli, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

Table 12
INTERSECTION CONDITIONS FOR YEAR 2010 WITH THE PROJECT
Wahiala - Galtbraith Lands Traffic Study

SIGNALIZED INTERSECTIONS	AM Peak Hour			PM Peak Hour		
	V/C Ratio	Delay (sec./veh.)	LOS	V/C Ratio	Delay (sec./veh.)	LOS
Kamehameha Highway/Olive Avenue	0.98	74.3	F	1.14	-- (1)	F
Kamehameha Highway/California Avenue	1.20	-- (1)	F	1.44	-- (1)	F
Kamehameha Highway/Kiani Avenue	1.97	-- (1)	F	2.87	-- (1)	F
Kamehameha Highway/Whitmore Avenue	0.87	21.8	C	0.94	33.5	D
Wilikina Drive/Kunia Road	0.55	51.0	E	0.81	-- (1)	F

UN SIGNALIZED INTERSECTIONS	AM Peak Hour		PM Peak Hour		
	Reserve Capacity	LOS	Reserve Capacity	LOS	
Kamehameha Highway/Kamananui Road					
	Kamananui EB right/left	-86	F	-321	F
Kamehameha NB left	387	B	379	B	
Kaukonahua Highway/Kamananui Road					
	Kaukonahua NB right/thru/left	78	E	-75	F
	Kaukonahua SB right/thru/left	230	C	103	D
	Kamananui EB left	768	A	745	A
Kamananui WB left	865	A	644	A	
Wilikina Drive/Kamananui Road					
	Kamananui WB left	-1135	F	-1266	F
	Kamananui WB right	563	A	208	C
	Wilikina SB left	378	B	160	D

(1) Delay and level-of-service are meaningless when any V/C ratio exceeds 1.2.

Source: Wilbur Smith Associates, October, 1992.

Table 13
FREEWAY, HIGHWAY, AND ON-RAMP CONDITIONS FOR THE YEAR 2010 WITH THE PROJECT
Wahiala - Galtbraith Lands Traffic Study

	Estimated Capacity	AM Peak Hour			PM Peak Hour		
		Volume	V/C Ratio	LOS	Volume	V/C Ratio	LOS
Kamehameha Highway S of Wheeler AFB							
	Northbound	3,800	1,634	0.40	B	1,302	0.34
Southbound	3,800	985	0.25	A	1,763	0.46	B
Wilikina btwn the H-2 Freeway and Kunia							
	Northbound	3,800	1,999	0.53	C	2,134	0.56
Southbound	3,800	1,598	0.42	B	2,692	0.71	D
H-2 Freeway S of Wilikina							
	Northbound	4,400	2,450	0.56	C	2,813	0.64
Southbound	4,400	2,150	0.49	B	2,514	0.57	C
SB On-Ramp to H-2 Freeway	1,408	1,354	0.96	N/A	898	0.64	N/A

Source: Wilbur Smith Associates, October, 1992.

Table 14

MITIGATED INTERSECTION CONDITIONS FOR YEAR 2010 WITH THE PROJECT
 Wahiawa - Galbraith Lands Traffic Study

SIGNALIZED INTERSECTIONS	AM Peak Hour			PM Peak Hour		
	V/C Ratio	Delay (sec./veh.)	LOS	V/C Ratio	Delay (sec./veh.)	LOS
Kamehameha Highway/Olive Avenue	0.88	23.3	D	0.78	11.7	B
Kamehameha Highway/California Avenue	0.75	18.9	C	0.81	22.1	C
Kamehameha Highway/Kilani Avenue	0.75	32.9	D	0.89	32.2	D
Kamehameha Highway/Whitmore Avenue	0.87	31.8	C	0.94	33.5	D
Willkna Drive/Kunia Road	0.56	21.7	C	0.82	28.7	D
Kamehameha Highway/Kamananui Road	0.40	5.2	B	0.63	8.3	B
Willkna Drive/Kamananui Road	0.77	21.8	C	0.89	24.2	C
UNSIGNALIZED INTERSECTIONS	Reserve Capacity		LOS	Reserve Capacity		LOS
Kaukonahua Highway/Kamananui Road	318		B	126		D
Kaukonahua NB right/thru/left	230		C	103		D
Kaukonahua SB right/thru/left	768		A	745		A
Kamananui EB left						
Kamananui WB left	865		A	644		A

Key: 0.77 21.6 C 0.88 23.3 D

-- shading indicates conditions after mitigation.

Source: Wibur Smith Associates, October, 1992.



Del Monte Fresh Produce (Hawaii) Inc.

Daniel R. Wilson
Vice President
General Manager

April 6, 1993

Mr. Robin Foster
Chief of Planning
Planning Department
City and County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813

Dear Mr. Foster:

Local newspaper accounts of the proposed development of Galbraith Estate lands by Hawaiian Trust have indicated severe impacts on the Del Monte pineapple operation. I am writing this letter to be certain that your department clearly understands that these accounts have significantly overstated probable impacts. Del Monte believes that the commitments and agreements we have made with Hawaiian Trust relating to the Galbraith Lands Master Plan will allow us to remain a major force in the Hawaii pineapple industry. The proposed development will remove approximately 900 acres of land from agriculture, currently used for the cultivation of pineapple, and convert it to predominantly affordable housing. However, positive steps are being taken by Hawaiian Trust and Del Monte to mitigate any impact.

From the initiation of the development proposal, Del Monte's position has been very clear. The land is owned by the Galbraith Trust, not by Del Monte and, therefore, Del Monte is not in a position and would not take a position of dictating to the land owner what should occur with the land. Our lease with the Galbraith Estate expires at the end of 1994. We fully intend to renew the lease on the balance of the land not under development and, therefore, would not want to oppose the development of the land. That issue clearly is between Hawaiian Trust, the Galbraith heirs and the City and County of Honolulu.

The Hawaiian Trust group handling the development, led by Mike Angotli, has been very helpful in assisting Del Monte to find replacement land, and in working with Del Monte for a smooth and orderly transition from the development lands. Because of Hawaiian

P.O. Box 200, Kula, Hawaii 96759 • Telephone 808-831-1208 • Fax 808-821-1202

Mr. Robin Foster
April 6, 1993
Page Two

Trust's close coordination with Del Monte, we have been able to adjust our planting schedules and are not required to have replacement lands until 1999. As discussed in the EIS Report, we will require 400 acres of replacement land in 1999, and in 2001, 400 additional acres. It is necessary for us to obtain replacement land, but not necessarily in the short term. We have discussed additional land with two land owners, Robinson Trust and Campbell Estate, to identify potential replacement lands and both are interested in working with us.

To date, we have identified 400 acres of replacement land currently not in cultivation that could be used to replace the 1999 land requirement. Additional replacement land has been identified and may be available sooner, depending upon the continuation of Oahu Sugar at its current land use level.

We feel that with proper and close communication, agriculture and development can co-exist. Del Monte believes it has a solid future in pineapple from Hawaii as a supplier of premium, fresh pineapple to mainland markets. We are currently negotiating renewals of our leases with all land owners that will extend our leases through the expiration of the various Trusts, about 2007. I hope that this letter clarifies Del Monte's position regarding the impact of the development of the Galbraith lands.

Sincerely,

Daniel R. Wilson
Vice President & General Manager

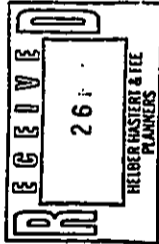
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C&C/HawaiTrust

March 24, 1993

Ms. Gall Uyetake
Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, HI 96813

Dear Ms. Uyetake:

Subject: Rejection of Draft Environmental Impact Statement for
Wahiawa Lands Development



It is in my view that the flora section of the DEIS prepared by Evangelina J. Funk, Ph.D is inaccurate because it does not account for all of the native Hawaiian plants found in the area being considered for development.

The following endemic and indigenous plants found in the site are mentioned by Dr. Funk: pūkiawe (*Styphelia tameiameia* Muell.), 'ūlel (*Osteomeles anthyllifolia* Sm.), huehue vine (*Cocculus trilobus* (Thunb.) DC), moa (*Psilotum nudum* (L.) Griseb), kou (*Cordia subcordata* Lam.), kukui (*Aleurites moluccana* (L.) Willd.) and ti (*Cordyline fruticosa* (L.) A. Chev). She also states a stand of three endemic Hawaiian plants, *Santalum freycinetianum*. In Hawaiian this plant is known as 'īlīahi. In English it is known as sandalwood - a scarce natural resource in the State of Hawai'i.

Two native Hawaiian plants that Dr. Funk had failed to mention are: 'ālai'i (*Dodonaea viscosa*) and kīlau (*Pteridium aquilinum* var. *decompositum*). The Prior along with several other plants previously stated had been and continues to be used by myself and my family for lei making purposes. These plants had been collected in Kaukonahua gulch for several decades.

Because the botanical survey done by Evangelina J. Funk, Ph.D. did not document what it purported to, a botanical re-survey of the site must be done. The community of Wahiawā and the State of Hawai'i has the right to know exactly what native Hawaiian plants still exist in the areas to be affected by the Wahiawa Lands Project.

By developing the areas surrounding Kūkanīloko, what ill effects will be imposed upon these native plants? If they are destroyed, what will become of the genotype of these plants? Extinction?

In ancient times, if a chief broke a kapu, smoke from the pūkiawe wood was used ceremonially to purify him in Pu'uhonua heiau (a temple of refuge). Only after the completion of the ceremony was he allowed back into the community. In addition to being a birthing site, Kūkanīloko was one such pu'uhonua heiau. To destroy the pūkiawe of this area is to destroy a part of Kūkanīloko.

Sincerely,

Daniel Au

93 2 24 1993 10:00 AM

Helber Hastert
Planners

April 16, 1993

Mr. Daniel Au
Lelehua High School
1515 California Avenue
Wahiawa, HI 96786

Dear Mr. Au:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 24, 1993 responding to our request for comments on the above-referenced DEIS. We have reviewed your comments with the project biologist, Evangeline J. Funk, Ph.D., and offer the following responses. A copy of Dr. Funk's letter addressing your comments is also attached.

The botanical survey report prepared by Dr. Funk indicated that no proposed or listed U.S. Fish and Wildlife Service of State of Hawaii listed plant taxa were found during the study in either the agricultural fields or in the adjacent gulches. Dr. Funk's survey did identify numerous endemic and indigenous plant species in the gullies and surrounding project area. She apologizes for having missed the two taxa mentioned in your letter: 'a'ali'i and kilau. She notes, however, that both plants are widely distributed throughout the Hawaiian Islands. Technically, the 'a'ali'i and kilau cannot be brought under the protection of the Endangered Species Act of 1973 for several reasons. The Act only protects plant species in their native habitats. Since the kilau is a variety rather than a species, it cannot be brought under the Act. The 'a'ali'i is a pan tropical of unknown origin, and therefore cannot be protected under the Act. Both of these are widely distributed and common taxa. If for some reason these taxa were protected, collection for lei making would not be allowed.

Notwithstanding these comments, we recognize the cultural significance of many of the indigenous and endemic plants and want to assure you that the use of these plants will not be curtailed as the proposed development will be confined to the area presently farmed in pineapple. Kaukonahua Gulch will remain within the State Conservation District and thus will continue under the jurisdiction of the State Department of Land and Natural Resources. The portions of Poamoho Gulch owned by the Trust (south of Poamoho Stream) will remain in the State Agriculture District.

The present agricultural operations contribute to erosion and sedimentation through runoff into the gulches, which is not presently regulated by government permit. Runoff from the developed site will be subject to Department of Health Administrative Rules and City and County ordinances and standards governing grading and drainage. Furthermore, the provision of landscaped ridgeline parks along Poamoho and Kaukonahua Gulches as well as the proposed golf course retention basins will reduce siltation and erosion through the turf established on both recreation facilities. Therefore, impacts of the development on resources in the gulches should be diminished from those of the present agricultural operations.

Helber Hastert & Fe
Planners

214 Hialeah Street, Suite 2700
Hialeah, Hawaii 96813

Telephone: 808-515-2655
Facsimile: 808-515-2050

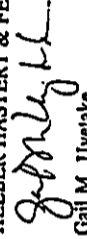
Helber Hastert
Planners

April 16, 1993
Mr. Daniel Au
Page 2

We appreciate your review of the DEIS and participation in the overall planning process. Please contact us if we can provide you with additional information. Your letter will be reproduced in the final EIS.

Sincerely,

HELBERT HASTERT & FEE, Planners


Gail M. Uyelake
Project Planner

Enclosure

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.



botanical consultants

p.o. box 90765 Honolulu, Hawaii 96835 (808) 923-4193 fax 923-4193
April 5, 1993

Ms. Gail Uyeiaka, Planner
Helber Hastert and Fee
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Dear Gail,

Thank you for sending me a copy of Mr. Daniel Au's letter of March 24, 1993 in which he asks that the section of the Draft Environmental Impact Statement for the Wahiawa Lands Development prepared by me be rejected. I would like to take this opportunity to thank Mr. Au for his interest and to answer the questions he has raised.


First, it is my understanding that no development is scheduled to occur in the gullies and canyons which traverse the study site. It is in these areas that the enumerated endemic and indigenous plant species occur. In addition, there is no excuse for my having missed the two taxa Mr. Au mentioned, if indeed, they are present within the development site. However, in the matter of the distribution of these taxa, I would like to refer to Hillebrand (1888), Neal (1965) and to Wagner, Herbst, and Sohmer (1990). With regards to the common bracken fern, kilau (*Pteridium aquilinum* (L.) Kuhn var. *decompositum* (Gaud.) Tryon). It is regarded as a common part of the plant community from 200 m elevation to the mesic subalpine shrublands above 2100 m. 'A'ali'i (*Dodonaea viscosa* Jacq.) is a pantropical species which, in the Hawaiian Islands is found on the leeward slopes of Kauai, Oahu, Molokai, Maui, and Hawaii from the coastal dunes to the subalpine shrublands.

While not including them in the species list is clearly an error, it is also clear that they are both widely distributed and common taxa.

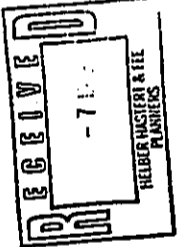
While I share Mr. Au's concern for the perpetuation of the Hawaiian flora, the fact remains that only those endemic plant species listed as threatened or endangered are protected under the Endangered Species Act of 1973. The Endangered Species Act does not protect varieties such as kilau. Neither can pan tropicals such as 'a'ali'i whose origins are unclear, be brought under the protection of the Act. If these taxa are afforded such protection, no one would be allowed to collect them for lei making or any other reason.

I appreciate Mr. Au's interest and the other information about the Hawaiian plants which he included in his letter.

Sincerely yours,


Evangeline J. Funk, Ph.D.

Botanical • Wetland • Environmental Studies



Division Office:
114 Bishop St., Suite 2104
Honolulu, Hawaii 96813
Fax (808) 529-2502
Telephone (808) 531-5862

Kenneth A. Martyn
Attorney at Law

March 23, 1993

North Shore Office:
P.O. Box 1037
Haleiwa, Hawaii 96712
Fax (808) 433-9708
Telephone (808) 437-6477



Helber Hastert & Fee, Planners
733 Bishop Street, Suite 2590
Honolulu, Hawaii 96813

Department of General Planning
City and County of Honolulu
650 South King Street, 8th Floor
Honolulu, Hawaii 96813

Re: Comments to Galbraith Trust Estate Wahiawa Lands
Development Draft Environmental Impact Statement

Dear Sirs and/or Madams:

I reside at 68-545 Crozier Drive, Waiialua, Hawaii 96791.
I have the following comments to the above-referenced draft EIS.

The Discussion of Wastewater Treatment is inadequate.
The EIS states that the estimated wastewater that will be generated by the development is 1.5 MGD excluding groundwater infiltration. How is this calculated? What is the estimated amount of infiltration? What is the estimated amount of inflow? To what extent have estimates of future increases in inflow and infiltration (I/I) due to the future deterioration of the collection system as it ages, been taken into account in making any estimates?

The EIS states that the development will require a 4.61 MGD tertiary treatment plant. How is this figure calculated? What will the impact of disposing all or a portion of the wastewater in Lake Wilson (Wahiawa Reservoir) be? Can the applicant commit to using (dedicating) its other adjacent agricultural lands for effluent disposal if it turns out to be impractical to discharge into Lake Wilson? The particular design of the wastewater treatment plant is not discussed in sufficient detail to make any assessment as to any potential problems that could be caused in connection with the wastewater.

Traffic. The impacts on traffic along Wilikina Drive and Kamehameha Highway are not adequately discussed. Without limiting the generality of the foregoing comment, the potential impacts on traffic of this proposed development along those two roads are inadequately discussed in relation to other proposed projects in

Helber Hastert & Fee, Planners
Department of General Planning
March 23, 1993
Page 2

the general vicinity that may increase traffic on those same two roads. For example, the proposed Ameron Kaukonahua Quarry may add significant impacts to traffic along those two roads. These potential cumulative impacts need to be discussed when discussing the potential traffic from this project.

Very truly yours,

Kenneth A. Martyn

KAM:ky

c55\galbr.332

April 20, 1993
Mr. Kenneth A. Martyn
Page 2

April 20, 1993

Mr. Kenneth A. Martyn
Attorney at Law
1188 Bishop Street, Suite 2304
Honolulu, HI 96813

Dear Mr. Martyn:

Wahiawa Lands Development, Wahiawa District, Oahu, Hawaii
Draft Environmental Impact Statement (DEIS)

Thank you for your letter dated March 23, 1993 regarding the above-referenced DEIS. We have reviewed your comments and offer the following responses.

Wastewater Treatment

According to the project civil engineer, Sam O. Hirota, Inc., estimates of wastewater to be generated and infiltration/inflow (I/I) were based on published City and County Department of Public Works, Division of Wastewater Management (DWWM) Standards. As reported in Appendix E of the civil engineering report, the estimated amounts of dry and wet weather I/I are 0.34 mgd and 0.62 mgd, respectively. These estimates are conservative, and account for average wear and aging of the system.

The 4.61 mgd tertiary treatment plant requirement was estimated by the use of DWWM standards cited above, and based on the design maximum flow. The capacity of the transmission pipes is based on the design peak flow. Any discharge of wastewater into Wahiawa Reservoir will be regulated under permit by the Department of Health. The lands adjacent to the area of application which are owned by the Galbraith Trust will continue to be leased to Del Monte for pineapple production. Therefore, it would be inappropriate for the applicant to commit the use of lands under lease commitments to others for effluent disposal at this time. The particular design for the wastewater treatment plant will be selected later after evaluating alternatives. The design of the treatment plant will be subject to the approval of the Department of Health and the DWWM.

Traffic

In preparing the traffic impact analysis report, the project traffic engineer (Wilbur Smith Associates) assumed two different increases in future background traffic volumes:

1. North of Wahiawa, existing traffic volumes on Kamemeha and Kaukonahua Highways were adjusted upward by 48.6 percent to reflect traffic growth through the year 2010. This growth factor was based on the Oahu Regional Transportation Plan forecasts for the Helemano screening through the year 2005.
2. An increase of 0.9 percent annually was assumed on cross streets through Wahiawa and on Whitmore. This is the annual growth rate calculated from previous State DOT traffic counts on these cross streets in Wahiawa. This

H-1000-1000-1
1188 Bishop Street, Suite 2304
Honolulu, Hawaii 96813
Tel: (808) 551-1111
Fax: (808) 551-1111



increase was applied to the year 2005 (14 years) with the total increase amounting to 12.8 percent. No additional increase was assumed between the year 2005 and 2010 because a 12.8 percent increase in traffic in an area which is already largely built out seemed a conservative estimate.

This information is contained on page 11 of Appendix K of the DEIS.

We appreciate your review of the DEIS. Your letter will be reproduced in the final EIS. Sincerely,

HELBER HASTERT & FEE, Planners

Gail M. Uyelake
Project Planner

cc: Mr. Michael Angotti, Hawaiian Trust Company, Ltd.
Mr. James Schuler, Schuler Homes, Inc.

