

FINAL

ENVIRONMENTAL IMPACT STATEMENT

for

WAIANA'EA COMMUNITY DEVELOPMENT PROJECT

by

HAWAII HOUSING AUTHORITY

March 16, 1972

ENVIRONMENTAL CENTER  
University of Hawaii  
2550 Campus Road  
Honolulu, Hawaii 96822

## INTRODUCTION:

This project is a joint effort involving the Hawaii Housing Authority and Reliance Construction Corp. to provide moderate cost residential units in the Waianae area. The project land area is approximately 53 acres, surrounds the Waianae Intermediate School and fronts on Farrington Highway on both sides of the school property. At this writing, the land had already been cleared and grubbed to conduct site investigations prior to this requirement for an environmental impact statement. Top soil has been imported into the area designated as a tree farm and a sprinkler system installed to prepare for the landscaping requirements of the project.

Plans indicate that about 440 residential units, both single family units and garden apartments are feasible for the area. A recreational building will be constructed at the Makaha end of the area near Farrington Highway. All utility lines will be placed underground. Approximately 405,000 square feet of land is devoted to recreation areas and open space for the project. Mini parks and open areas around the recreation center and project entrances account for approximately 155,000 square feet. The pedestrian parkway system takes up 94,000 square feet of land. Open spaces between clusters of multi-family buildings and buffer areas account for 156,000 square feet.

Of particular importance to the project is the inclusion of the pedestrian parkway system which provides the community with an area to walk, jog, ride bicycles and socialize without interference from vehicular traffic. This parkway system follows a meandering course from about midway of the project site down

2 through the residential areas and terminates at the Community Recreation area. Additional recreational facilities are basketball backboards and hoops at the end of most of the private cul-de-sacs.

Parking space for residents and guests is amply provided. There will be space for approximately 1,746 cars, or a total of 4 parking spaces per residential unit. Two spaces are first allowed for each of the 440 units and 400 spaces are designed for tandem use at the carports of most of the single family units. Additionally, there are 466 parallel guest parking spaces on the public thoroughfares.

The affordability of the units in this project is bolstered by the involvement of the State in the form of the Hawaii Housing Authority and the use of federally assisted programs. The selling prices of the units are limited, as are the developer's profits, which ultimately results in a lower cost to the buyer. One federally assisted program, the FHA Section 235 program, for example, makes possible the purchase of a three-bedroom home by a family of 4 with an annual income of about \$ 6,500.00. The family would put only \$200 as a down payment and the Federal Government would subsidize their mortgage payments so that they only pay 20% of their monthly income. The ceiling on the price of a three-bedroom, one bath home under this program would be \$ 31,500. The approximate price range of the three and four bedroom homes would be \$ 31,500 to \$ 36,000. Since 97% of the applicants for these units are from the Waianae Coastal areas, there will probably be very little effect on the population density and on the school population. The project will serve largely to meet the need for replacement housing for dilapidated or overcrowded living quarters of the people

3  
currently residing on the Waianae Coast.

Existing characteristics and conditions of the environment:

Area Population

The total population of the Waianae Coast is 23,842. The growth trend is upward at an annual rate of 3.8%. A large majority of the population lives along a narrow coastal strip of about 10 miles between Makaha and Nanakuli, and in several large valleys extending back into the Waianae Mountain range. This is the population directly affected by the project.

Site Conditions

The difference in elevation on the site ranges from 4 feet above sea level to about 24 feet at specific high points near the back of the property on the Makaha side. Most of the area, however, contains grade differentials of less than 2 feet per hundred and is generally flat. The surface is covered with gravel, cobbles and boulders of cemented coral, and earth moving operations have taken place to discover possible underground cavities and expansive soil conditions. Numerous holes are visible on the surface and are partially filled with coral fragments and kiawe (mesquite) branches. These holes are up to 10 feet wide and up to 8 feet deep. Underground water encountered near mean sea level by test borings was saline in quality. The property does not abut or contain any rivers or other bodies of water and is approximately 1,000 feet away from the ocean at its nearest point.

Atmosphere and Climate

The climate at the project site and in the surrounding areas of the Waianae Coast is generally arid. The annual mean precipitation is 19.91 inches in Waianae with 66.68 inches in Waianae Mauka and 21.96 in Waianae Valley. The annual

mean temperature is approximately 73.5 degrees Fahrenheit.

Zoning and Land Use designated in Master Plan, comprehensive long range plans.

The land was designated for schools and public facilities in the Detailed Land Use Map (DLUM) with State land use district designated as urban. An amendment to the DLUM is being processed to change the designation to residential. In order to adopt a Planned Development Housing District, the general plan requires amendment. The factors justifying the amendment are:

1. the school and the public facilities are adequately provided for and have no need for more land.
2. there is a definite and urgent need for housing in the Waianae area and the property is ideally suited for residential purposes.

Biological Factors

The area is devoid of fauna except, perhaps, for some rats and mice that may live in the numerous holes in the coral. Possible inhabitants of the site prior to clearing and grubbing operations are several species of rats: the black, roof and Alexandrine rat ( *Rattus rattus* ) and the Norway rat ( *Rattus norvegicus* ) which have aboreal habits, and the mongoose ( *Herpestus javanicus auropuntatus* ) which is abundant at elevations from sea level to 2,000 feet, especially on the leeward side of the island. Also possible were the existence of feral dogs, cats and pigs, although it is unlikely due to the close proximity of the area to the highway and the school grounds.

Cultural Factors

The area is not noted as a scenic attraction for residents or tourists. Its value as a residential area is enhanced by its close proximity to the Waianae Intermediate School property, which it abuts, and the Waianae High School and the proposed regional park close by. No archeological or historical sites and objects are within the area.

The home environment of the individuals who will reside within this community will be improved with the availability of improved housing in the area. Other cultural factors are of little significance to the people if they are deprived of decent shelter within their financial grasp. Housing is a first priority item to the people and other factors should be examined in this perspective.

The project, as it has been mentioned earlier, does have a recreation building to be used for culturally enriching music programs or other community activities.

1. THE ENVIRONMENTAL IMPACT OF THE PROPOSED PROJECT.
2. ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED.  
(Both 1 and 2 treated below)

Modification of Regime

The project development will include the importation of many kinds of plants that were not originally present on the area. The following is a list of the kinds of plants we anticipate using in the landscaping scheme for this residential community.

Common Name

Scientific Name

Alibang bang	Bauhinia binata
Bottlebrush	Callistemon lanceolatus
Rainbow Shower	Cassia Hybrid
Royal Poinciana	Delonix regia
False Olive	Elae odendron orientalis
Golden Rain Tree	Koelreuteria Formosa
Allspice	Pimenta officinalis
Monkey Pod	Samanea Saman
Silver Trumpet Tree	Tabebuia argentea
Mois's Pink Tecoma	Tabebuia pallida var. moir
Gold Tree	Tabebuia Donnell-Smithii
Fiddle Leaf Fig	Ficus Lyrata
Narra	Pterocarpus indicus
Coral Tree	Erythrina crista-galli
Autograph Tree	Clusia rosea Jacq.
Almond Tree	
Golden Shower	Cassia fistula
Norfolk Island Pine	Araucaria excelsa
Noni Indian Mulberry	Morinda Citrifolia
Sealing Wax Palm	Aracaria excelsa
Paper Bark Tree	Melaleuca Leucadendron
Poinciana	Delonix regia
Hong Kong Orchid Tree	Bauhinia blakeana
Kamani Tree	Calophyllum inophyllum
False Kamani	Terminalia catappa
Lauhala, Hala, Puhala, Pandanus and Screw Pine	Pandanus Odoratissimus
Opiuma, Manila Tamrind, Madras Thorn	Pithecellobium Dulce
Coconut Tree, Coco Palm, Niu	Cocos Nucifera
Blue Latan Palm	Latania Loddifesii
Oleander	Peach

The site is now generally inhospitable to the plants we intend to import, due to the absence of fertile, friable soil which contains adequate amounts of humus material for healthy plant growth. The site will be sculptured by cutting and filling operations prior to adding topsoil to provide adequate drainage and for aesthetic variations in land form. Other physical modifications of regime include the construction of paved streets and a pedestrian walkway system.

Micro climatic conditions will be altered by the addition of topsoil which will induce greater moisture retention.

#### Resource Depletion

The resources being depleted would be coral, a possible game habitat and open space.

#### Emissions, Effluents, Solid Wastes and Noise

Airborne emissions at the project site would include emissions generated from the operation of cars, trucks, generators, tractors and other construction equipment. All government emission control regulations will be complied with.

Water borne effluents are not anticipated to be a problem since there are no rivers or streams running through the project. Water will be used for dust control and irrigation but runoff will be negligible.

All solid wastes (construction debris) will be trucked away from the site for disposal in compliance with government ordinances. These wastes would be comprised primarily of wood and wood products and containers.

Noise emissions will be caused by equipment such as tractors, bulldozers, scrapers, trucks and compactors during construction. Efforts will be made to create a minimum of disturbance to surrounding areas.

During construction we will maintain a buffer hedge to control the dust and to absorb noise to minimize the disturbance to the Waianae Intermediate School.

A buffer area has been designed and will be appropriately landscaped to protect the 28 homes adjacent to Farrington Highway from excessive noise and dust. Each lot will be set back approximately 30 feet from the highway.

Additionally the houses will be set inside the lot so that the houses will be approximately 50 feet from the highway.

Chemicals

It is anticipated that some chemical fertilizers and pesticides will be used to establish plant growth in the project. The following is a list of the chemicals that may be used:

- |               |  |
|---------------|--|
| Fungicides:   | Manzate D (maneb plus zinc)<br>Manzate 200 (maneb)<br>Benlate (systemic) |
| Insecticides: | Lannate  |
| Herbicides:   | Karmex Pre-emergence<br>Hyvar x Non selective sterilant<br>Anmate x      |
| Fertilizer:   | Fertilizer # 12-24-12 (general use)<br>Lawn Fertilizer # 6-4-2           |

3. ALTERNATIVES TO THE PROPOSED ACTION.

Housing is the best alternative use for this site. The land is classified "Very Poor Suitability" for agriculture. The location is poor for industrial use, considering availability of local labor and proximity to industrial markets. Industrial use would also be detrimental to the community at that site next to schools and the park. The community at present has more land classified for resort uses than it can use and resort use of the site would deteriorate the neighborhood for residential use. Use of this land as a park would be illogical since a major regional park of about 56 acres is planned across Farrington Highway.

4. THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY.

The use for which the land is proposed, that of building residential units, is a long-term use which optimizes the productivity of this site. Housing is urgently needed in the Waianae area in the short term as well as over the long term.

It is anticipated that the proposed development will not generate increased population in Waianae, but rather replace existing units in a dilapidated condition and relieve overcrowded situations.

We have checked with all the various public agencies and utility companies and have been informed that facilities available at the site are considered adequate to handle this development:

Traffic - the area is served by a major thoroughfare, Farrington Highway, which connects with Kamehameha Highway. Because the population of the projected community would mainly represent a shifting of families within the Waianae Coastline area, rather than an infusion of new families from other parts of Oahu, the amount of traffic on Farrington Highway would be affected very slightly.

Water - the area is served by a 16 inch water main which runs along Farrington Highway. Also planned by the Board of Water Supply is a reservoir in the hills Mauka of Waianae town.

Drainage - The City and County of Honolulu has just completed the first phase of Kaupuni Stream Flood Control Project which is located just Waianae of the project site. The drainage system for the planned residential community

will conform to City and County Public Works standards.

The project is being required to handle storm drainage from its site plus the anticipated runoff from lands immediately mauka of the site. An existing box culvert under Farrington Highway has been handling runoff at the Makaha end of the property. Approximately one half of the anticipated water from this site will flow through this existing box culvert onto the park site makai of the property. The other half of the water from the site plus the water from mauka lands will flow into the Kaupuni Stream should be accommodated easily as the Kaupuni Stream Flood Control Project was designed to accommodate drainage from this site.

Sewage Disposal - The City has an extensive sewage program for the Waianae district. Construction of a sewage treatment plant has been completed and a trunk line from Waianae town to the plant has been built. A 30 inch trunk line runs in front of the project along Farrington Highway.

Utilities - Existing lines for electric power and telephone usage are adequate to serve the needs of this proposed project.

Refuse Disposal - The Refuse Division confirms that they can handle the development. Areas have been designated for refuse storage and collection in accordance with the requirements of the Department of Public Works Refuse Division. Other than indirect charges through taxation, no charges will be assessed the residents of this project.

5. ANY IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED.

The commitment of land would constitute an irreversible and irretrievable commitment of a valuable and scarce resource. Concomitant to the use of the land would be the loss of open space and possible wildlife habitat.

6. ANALYSIS OF THE ECONOMIC AND SOCIAL BENEFITS DERIVED FROM IMPLEMENTATION OF ENVIRONMENTAL QUALITY CONTROL WITH RESPECT TO THE HOUSING PROJECT.

In general, the implementation of environmental quality control provides a check against abuse of the environment, weighs the relative value of various uses of land, and creates an awareness of specific actions that may prove detrimental to mankind in the short, as well as in the long run.

It is quite possible, aside from the general consensus that housing is an item of the highest priority among the needs of people everywhere, that in the process of building residential units on a specific area of land, actions detrimental to the long-term welfare of mankind may be involved. This could involve improper or unwarranted earth moving, cutting or filling operations, inadequate drainage provisions, improper use of chemicals, improper discharge and disposal of liquid and solid wastes and disregard for aesthetic values in building design, land planning and landscaping, and possibly destruction of important resources and historical-archaeological sites.

The conclusion therefore, is that albeit the economic costs may be greater to the developer when proper procedures are exercised, there are

12 many benefits gained by the future residents of this community, the larger society of which they are a part, and the developer in establishing a reputation for sound planning and development of housing projects.