TO: Abdul Salau  
Office of Environmental Quality Control

FROM: Joseph K. Conant, Executive Director

SUBJECT: Environmental Assessment and Negative Declaration for the Proposed Waipahu Crown Elderly Housing Project  
TNK: 9-4-171 1  
Waipio and Waikale, Ewa District, Oahu, Hawaii

Submitted herewith are four (4) copies of the Environmental Assessment and Negative Declaration prepared for the subject project. We have carefully reviewed the Assessment prepared by our consultant and concur with its recommendations. Therefore, we are filing a Negative Declaration for the subject project.

We would appreciate publication of this Negative Declaration in your August OEQC Bulletin.

Should you have any questions, please contact Marcel Audant, Project Coordinator, at 543-2947.

JKC:MA:vlw

Enc: Environmental Assessment and Negative Declaration (4)
ENVIRONMENTAL ASSESSMENT

WAIPAHU CROWN ELDERLY HOUSING
WAIKELE AND WAIPIO, EWA, OAHU

Submitted in Partial Fulfillment
of the Requirements of
Chapter 343, HRS and
Chapter 200, Title 11, Administrative Rules
State Department of Health

Prepared for

HOUSING FINANCE AND DEVELOPMENT CORPORATION
DEPARTMENT OF BUSINESS AND ECONOMIC DEVELOPMENT
STATE OF HAWAII

By

GERALD PARK URBAN PLANNER

July, 1990
ENVIRONMENTAL ASSESSMENT

PROJECT: 
Waipahu Crown Elderly Housing

LOCATION: 
Waiekele and Waipio, Ewa District, Oahu, Hawaii
TMK: 9-4-17:1

PROPOSING AGENCY: 
Housing Finance and Development Corporation
State of Hawaii

CONTACT PERSON: 
Mr. Marcel Audant
Project Coordinator
Phone: 543-2947

AGENCIES, ORGANIZATIONS, AND INDIVIDUALS CONTACTED OR CONSULTED IN PREPARING THE ASSESSMENT

FEDERAL

Fish and Wildlife Service
Soil Conservation Service
U.S. Army Engineer District, Honolulu

STATE OF HAWAII

Department of Accounting and General Services
Department of Business and Economic Development
Department of Health
Department of Land and Natural Resources
Department of Transportation
Hawaii Housing Authority
Office of State Planning
Office of Environmental Quality Control

CITY AND COUNTY OF HONOLULU

Department of General Planning
Department of Housing and Community Development
Department of Land Utilization
Department of Parks and Recreation
Department of Public Works
Department of Transportation Services
Board of Water Supply
Fire Department
Police Department
INDIVIDUALS AND ORGANIZATIONS

Senator Ron Menor
Senator Eloise Tungpalan
Representative Julie Duidulao
Representative Paul Oshiro
Councilman John Desoto
Hawaiian Electric Company, Inc.
Hawaiian Telephone Company
The Gas Company
Waipahu Community Association
Waipahu Neighborhood Board
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SECTION 1

DESCRIPTION OF THE PROPOSED PROJECT

The Housing Finance and Development Corporation (HFDC), State of Hawaii, proposes to develop State owned lands situated in the town of Waipahu, portion of Waikele and Waipio, Ewa District, City and County of Honolulu, Hawaii (See Figure 1). The subject property is identified by tax map as First Division 9-4-17:1 encompassing an area of 22.55 acres.

The Master Plan for Crown Property (Figure 2) proposes a mixed-use development concept for this centrally located property. The proposed uses support community needs and those of the principal users for which development is planned. As part of the development process, the property will be subdivided into six lots. Four lots comprising 13.3 acres will be developed for elderly housing (Waipahu Crown Elderly Housing) as the principal use of Crown Property. Approximately 4.5 acres already have been acquired by and will be developed by the Department of Accounting and General Services, State of Hawaii, for the proposed Leeward Civic Center. This site was one of three alternative locations recommended for a civic center to be located in Waipahu town (Waipahu 2000 Master Plan). Land also has been set aside for a senior citizens center (1.5 acre) and a medical office building (0.5 acre).

A. Technical Characteristics

1. Elderly Housing

The Master Plan program proposes the construction of 330-340 apartment units for the elderly as the principal use for Crown Property. Residential construction will help alleviate a shortage of dwelling units for the elderly. Approximately 220-230 units will be constructed in two, 7-story mid-rise structures. Sited near the center of the property, the L-shaped buildings are oriented east-west (along their long side) to maximize views to the mountains, the adjoining park, and to take advantage of the prevailing wind direction (northeast trades). Each building has a floor area of 12,600 square feet on the ground floor and 11,000 square feet per floor for floors two (2) through seven (7).
Dwelling units are single loaded on each floor typically with 15 units per floor. Two unit sizes are planned as follows:

<table>
<thead>
<tr>
<th>UNIT</th>
<th>BATHROOM</th>
<th>NO. OF UNITS</th>
<th>AREA (SF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studio</td>
<td>1</td>
<td>80</td>
<td>423</td>
</tr>
<tr>
<td>1 Bedroom</td>
<td>1</td>
<td>31</td>
<td>592</td>
</tr>
</tbody>
</table>

Approximately 110-112 apartment units will be developed in a low-rise (1 and 2 story) townhouse configuration. These structures will be placed around the perimeter of the development (see Figure 2) and would contain studio and 1-BDR units of similar size to units in the mid-rise structures.

Because of soft, compressible soils, the two mid-rise buildings will be placed on pile supports and framed with a combination of poured in place concrete and steel members. The exterior walls are a combination of drivet and other textured finishes and interior walls will be constructed of hollow tile and gypsum board. A flat roof is proposed with wrap around rolled metal mansard trim.

A managers office, meeting room with kitchen, and laundry facilities will be located on the ground floor. To minimize energy consumption and cost, the residential buildings will not be air conditioned; operable windows in each unit will aid in cooling and ventilation.

Providing adequate security of the grounds, building, and occupants are of major importance to HFDC. Towards this end, security measures have been incorporated into site and building plans. Examples of these measures include fencing the perimeter of the property (site security), keyed entry into the buildings (building security) and equipping units with deadbolt door locks and call buttons (unit security). Cost considerations preclude hiring security personnel at this time.
2. **Senior Citizens Center**

A 1.5 acre site has been reserved along Mokuola Street for a senior citizens center. There is no such facility in this area of Oahu and Waipahu seniors now use a City recreation building (boxing gym) for meetings and activities. Incorporating a senior citizens center as part of the overall Crown Property development benefits from its proximity to planned elderly housing, walking distance to public transportation routes, shopping areas, and government services (proposed Leeward Civic Center).

3. **Medical Office**

A 0.5 acre site in the northwest corner of the property is planned for a medical office building. HFDC is not proposing to develop the property, rather, they will later seek to market the property for the planned use.

4. **Infrastructure**

a. **Circulation and Parking**

Access will be taken off Mokuola Street via a single 44-foot wide road built to County standards. Curb to curb width measures 28 feet to accommodate two traffic lanes, rolled curbs, and gutters. Eight (8)-foot wide shoulders will accommodate concrete sidewalks, street trees and landscaping, light standards, traffic signs, and pertinent fixtures. Curb cuts at intersection will facilitate unimpeded access by the handicapped. The road will be maintained as a private road.

Twenty-eight on grade, uncovered, parking stalls are provided for Phase I development. The number of parking stalls is based on a 1 stall per 4 dwelling unit ratio \(111 \text{units}/4 = 28\) which is typical for new State funded elderly housing projects. Twelve parking stalls are provided for visitor use. If additional parking to accommodate resident vehicles is required, unimproved lands elsewhere on-site will be improved for off-street parking.
b. **Water**

   Water will be taken off a municipal 12-inch main beneath Mokuola Street. Average daily demand is estimated at 0.129 mgd.

c. **Sewer**

   Sanitary sewers in the project will connect to an existing 24-inch municipal line along the left bank (Crown Property side) of Wailani Stream. Wastewater flow is estimated at 0.043 gpd.

d. **Recreation**

   A permanent drainage system will be constructed to collect, convey, and discharge on-site runoff into Wailani Stream which adjoins the development to the east.

e. **Power and Communication**

   Power, communication, and CATV lines will be placed underground.

f. **Recreation**

   Outdoor recreation areas are planned primarily as open space for passive recreation activities, entertaining, and gardening. Meeting rooms on the ground floor of each building will accommodate indoor recreation activities.

B. **Economic Characteristics**

   Crown Property is owned by HFDC which acquired fee title to the land in 1974.

   Improvement costs for the first residential development phase (which may include driving piles for the second phase) is estimated at $10.8 million ($1990) and will be funded by HFDC as owner/developer. Cost estimates for the remaining phases have not been determined.
Upon completion of construction, the rental units will be managed by the Hawaii Housing Authority’s Management Section. Rental rates will vary by elderly household income. Thirty percent (30%) of tenants monthly income is proposed for rents with a proposed minimum rent of $150/month and $175/month for the studio and one-bedroom units, respectively. Future adjustments in rent for each unit will be determined by the HHA Management Section based on the cost of operating expenses.

HFDC proposes a four phase development schedule. Construction of Phase I is projected for late 1990. A preliminary development schedule is shown below:

<table>
<thead>
<tr>
<th>Phase</th>
<th>No. of Units</th>
<th>Start</th>
<th>Complete</th>
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<tbody>
<tr>
<td>II</td>
<td>110 - 120</td>
<td>*</td>
<td>*</td>
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<tr>
<td>III</td>
<td>56</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>IV</td>
<td>56</td>
<td>*</td>
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</table>

* Start up dependent on Capital Improvement Program funding and financial feasibility.

C. Social Characteristics

No business enterprise or resident will be displaced by the project. The site is vacant and no portion is under general lease or revocable permit in favor of any lessee.

The project is targeted for elderly households desiring long-term rental accommodations in a safe, sanitary environment. Prospective occupants will have a choice of studio and one-bedroom units and possibly larger accommodations with implementation of Phases III and IV.

The Hawaii Housing Authority has a waiting list of 1,982 elderly persons in Honolulu desiring housing (HFDC, 1988). Elderly applicants will be screened for eligibility using the following criteria: (a) 62 years or older; (b) resident of Hawaii; (c) no interest in real estate; (d) assets not to exceed two times the eligible income; (e) single or couple without dependents; and (f) income level.
A minimum of five percent (5%) of the units will be set aside for handicapped tenants. Residents confined to wheelchairs will be located on the ground or first floor level for easy access to their apartments.
SECTION 2

DESCRIPTION OF THE AFFECTED ENVIRONMENT

The history of Waipahu is deeply rooted in the natural resources found in the area. Native Hawaiians settled the area as fish were plentiful in nearby mudflats and shallow waters off Pearl Harbor. Natural springs issued water for agricultural activities and taro and other wetland crops were readily cultivated. The turn of the 20th century saw vast acreages of the Schofield Plateau and Ewa Plain and its rich soils committed to a more ambitious endeavor — sugar cane cultivation — which replaced fishing and subsistence farming as the agricultural and economic mainstays of the region. Today, some 90 years later sugar cane is still king. Waipahu has a rich and illustrious history that can be gleamed from cosmopolitan surnames of its residents (29,000 strong) place names, architecture, and the still operating sugar mill with its smokestack prominently overlooking downtown Waipahu.

Located about 1/2 mile makai of this landmark, the project site is bordered by residences on the north, commercial activities on the south, Mokuola Street on the west, and Wailani Stream channel on the east. The proposed Leeward Civic Center is planned on 4.5 acres abutting the project site to the south.

The land is vacant and generally undeveloped. The exception is the presence of several cultivated garden plots presumably belonging to adjoining landowners. Previous grubbing, grading, and surcharging have extensively modified the property which itself was created by land filling (Soil Conservation Service 1972). Generally, the soil consists of 8-10 feet of artificial fill over deep, soft, compressible deposits (Dames and Moore 1982). To minimize ground settlement due to consolidation of the soft, compressible deposits, a surcharge program was initiated in 1975 and continues to the present time.

The ground surface is generally slight to moderately sloping with site grades ranging from +15 feet at the northwest corner to +6 feet along Wailani Stream in the east-southeast corner.
Portions of the property parallel to Wailani Stream lie in a floodplain. Flood Insurance Rate Maps (1987) places same in Zone X (shaded) which is defined as "areas of 500 year flood or areas of the 100 year flood with average depths of less than one foot".

In a separate project, the HFDC will improve Wailani Stream Channel to negate potential flooding of lands adjoining the channel. Improvements include widening the channel right-of-way to 80 feet (from its present 70 feet) over its 1,500 foot length, constructing a 430 foot long reinforced concrete rectangular section upstream from the Farrington Highway Bridge, and reshaping approximately 1,100 lineal feet of earth trapezoidal section to Pi'iwaa Street. Construction is expected to commence in January, 1991 and should be completed in six months.

No underground sources of potable water exist beneath the site. However, artesian conditions are known to exist in the area and three of four located springs underlying the property have been capped (Refer to Figure 3).

No archaeological features appear on the surface neither do historic site maps chart recorded features on the property.

Tropical fruits and vegetables are raised in gardens on the northeastern half of Crown Property. Banana, papaya, pigeon pea, eggplant, okra, greenbeans, squash, and peas flourish in well maintained planter beds. The remaining half is covered by Guinea (Panicum maximum) and California grasses (Brachiaria mutica) 5-10 feet in height. Morning glory (Ipomea sp) and koa haole (Leucaena leucocephala) grow profusely as do weedy adventures such as Spanish needle, garden spurge, spring amaranth, Cuba jute, and alternanthera.

No wildlife was observed but given a source of food and water, mongoose (Herpestes auropunctatus) and rats (Rattus spp.) probably browse the property.
Crown Property is classified Urban on State land use district boundary maps, general planned Urban Fringe on the City and County of Honolulu General Plan, designated Residential on the City and County of Honolulu Development Plan for Central Oahu, and zoned Residential (R-5). Residential use of the site is recommended by the community originated Waipahu 2000 Community Master Plan.

Recently completed road improvements link Crown Property with Waipahu Street and Farrington Highway (via Mokuola Street) and Depot Road (via Hikimo Street). Mokuola and Hikimo Streets were improved in 1987 by HFDC and dedicated to the County. Both are County standard roads with 60-foot rights-of-way. Curb to curb width measures 44-feet (Mokuola Street) and 40-feet (Hikimo Street) and accommodates four traffic lanes. Both are fully improved with curbs, gutters, and sidewalks. The posted speed limit is 25 mph.

Water service is available from a 12-inch water main along Mokuola Street.

On-site drainage improvements are limited to a 36-inch underground drainline from Nali Street (to the west of Crown Property) which crosses the center of the property (west to east) and discharges runoff into Wailani Stream. Wailani Stream also receives stormwater discharge from outlets near Paiwa Street, various sized lines draining Waipahu Field, and a 48-inch drain along the southern edge of Crown Property (the site of the proposed Civic Center).

Sewer lines of varying sizes are found along Nali Street (12-inch) to the north and Mokuola Street (8-inch) to the east. These lines collect and convey wastewater into an existing 24-inch line alongside Wailani Stream.

Overhead electrical lines cross the middle of the property in an east-west direction.

Police protection originates from the Pearl City Police Station on Waimano Home Road about 2-1/2 miles away in Pearl City. Crown Property is regularly patrolled throughout the day by police vehicles.
The Waipahu Fire Station is located about 1.5 miles west of the site on Leonoi Street in the Waipahu Industrial Area. The station's authorized manpower is 13 firefighters on duty at all times. An engine company, ladder company, and tanker are based at the station. In addition, a City and County of Honolulu emergency ambulance also is housed at the station.

Waipahu Field, located across Wailani Stream Channel, is one of the major recreation facilities in Waipahu. A gymnasium, community center building, playground, outdoor tennis courts, three baseball diamonds, swimming pool, outdoor basketball courts, and off-street parking make up this 13.8 acre facility.
SECTION 3

IMPACTS AND MEASURES TO MITIGATE ADVERSE EFFECTS

The scope of the project was discussed with staff of the Housing Finance and Development Corporation and the team of consulting architects and engineers assembled for this project. Comments to the proposed project were solicited from Federal, State, and County agencies, government officials, utility companies, and community organizations. Time was spent in the field noting existing uses and conditions of the affected property and adjoining lands. The discussions, comments, technical reports and field investigations helped identify general conditions and physical features that would be affected by the project and those environmental features that could affect residential uses of the property. These conditions include:

- The site has been undergoing a surcharge program since 1974;
- The site is vacant and devoid of structural improvements;
- There are no historical and cultural features within the project area;
- There are no rare, threatened, and endangered flora and fauna on the site;
- Existing water, sewer, and utility systems are adequate to service the project.
- Thick deposits of soft compressible soils underlie the site; and
- Artesian springs issue water beneath the site.
Environmental

At the onset of construction, vegetation, abandoned automobiles, broken concrete, and debris will be cleared and previously placed surcharge fill removed. In general, filling after surcharge removal should be minimal in those areas proposed for site development. Areas to be filled will be compacted and the entire site proof-rolled. Grading to achieve design elevations will be done in accordance with Chapter 23, Grading, Soil Erosion, and Sediment Control (Revised Ordinances of the City and County of Honolulu) and with a technical report titled "Geotechnical Consulation and Investigation Crown Mixed Use/Wailani Stream, Waipahu, Oahu, Hawaii" prepared by Dames & Moore, 1990. Grading operations also will be performed in conformance with the applicable provisions of Chapter 54 (Water Quality Control Standards) and Chapter 55 (Water Pollution Control) of Title 11, Administrative Rules, State Department of Health.

During site preparation and construction phases, it is inevitable that fugitive dust will be generated. Dust cannot be eliminated entirely but is expected to vary depending upon the type of activity being performed, limits of exposed area, moisture content of exposed soil in work areas, and climatic conditions. Fugitive dust also will be raised by construction vehicles moving over the site.

Construction equipment will emit some air pollutants in the form of exhaust emissions (carbon monoxide and nitrogen dioxide) and aldehyde odors.

State of Hawaii Department of Health Administrative Rules (Chapter 60, Section 26) stipulate control measures that are to be used to reduce fugitive dust. Because of the proximity of the project to existing residential areas dust control will be of paramount importance throughout construction. Examples of dust control measures include planting (or sodding) exposed areas as soon as final grades are established and frequent watering by truck or hand sprinkling. The Contractor also will keep the job site and adjacent roadways free of silt and construction debris.
Noise, an inevitable consequence of construction work, will be generated during all phases of construction. Construction noise, like fugitive dust, cannot be avoided and all project activities will comply with noise control provisions of Title 11, Administrative Rules of the State Department of Health Chapter 43, Community Noise Control for Oahu and Chapter 42, Vehicular Noise Control for Oahu.

Equipment noise must be attenuated to meet allowable noise levels (measured at the property line) established in the regulations by zoning districts (55 dBA for residential, 60 dBA for commercial and apartment districts; daytime noise levels). No use of construction equipment, power tools, or vehicles which emit noises in excess of the allowable noise levels will be permitted without first obtaining a Noise Permit from the State Department of Health. Although the permit does not attenuate noise per se it regulates the hours during which excessive noises are allowed.

The two, seven story buildings will be supported on piles resting on underlying bedrock approximately 80 feet below the existing ground surface. Thus, the pile driver, which is the most deafening and certainly one of the most irritating piece of construction equipment, will be used. Sound pressure levels for the pile driver generally range from 94 to 106 dB(A). Local measurements of pile driver noises show a slightly lower noise range. During construction of Hemmeter Center pile drivers generated sound pressure levels (corrected) on the order of 87-102 dB(A) at 50 feet and averaged 96 dB(A) (Belt, Collins & Associates 1977). Although quantitative differences in sound pressure levels can be identified, this probably does not make a significant difference to individuals. To some, pile driving noises are still deafening and irritating regardless of attenuation. It is not structurally feasible to avoid the use of piles hence pile driving and its concomitant noise cannot be avoided. Pile driving for Phase I (and possibly II) may be done concurrently and should last approximately two months with an additional week for equipment mobilization/demobilization. Noise regulations allow pile driving only between the hours of 9 a.m. to 5:30 p.m. A noise permit will be obtained from the State Department of Health prior to the start of construction (per Chapter 43 of Title 11, Administrative Rules of the State Department of Health).
There are neither archaeological remains nor plant and animal species identified as threatened or endangered present. Should subsurface archaeological remains be unearthed, construction work in the immediate area will cease and historic authorities promptly notified for proper disposition of the finds.

Although construction impacts are expected to be temporary and can be satisfactorily mitigated by construction practices and regulatory mechanisms, there is less certainty about potential ground settlement problems. At this time, the results of lengthy geotechnical investigations suggest that some settlement can be expected to develop slowly over a long period of time. The magnitude of the remaining settlement is difficult to estimate but expected to be on the order of 3 to 6 inches (Dames and Moore, 1990).

Site preparation, design, and administrative measures are proposed with the aim of mitigating potential problems brought on by ground settlement. These measures include:

**Site Preparation**

- an on-going surcharge program (since 1974) with monitoring of actual ground settlement.

- setting finish grades higher in anticipation of future settlement.

- stripping the top 6-12 inches of soil from all areas to be developed and hauling same to a suitable disposal site.

- removing a minimum of 3 feet of surcharge material in designated areas of the property (See Figure 3 and Table 1).

- filling areas to design elevation, compacting same, and proof-rolling the site with a total dead weight of at least 15 tons.

- where spring conditions are encountered, the area will be excavated of soil, backfilled with No. 2 Course Drain Rock, and sub-drains installed. These areas would be left as open space or for parking.
<table>
<thead>
<tr>
<th>Sub Area</th>
<th>Site Preparation items</th>
<th>Remarks</th>
<th>Source: Dames and Moore, 1990.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Majority of &quot;A&quot;</td>
<td>1. Clearing, grubbing &amp; stripping</td>
<td>No additional surcharge is needed. Minimize fill placement and fill as early as practical. Monitor settlements during and construction in low-lying areas near channel.</td>
<td></td>
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<tr>
<td></td>
<td>2. Surcharge recompaction</td>
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<td></td>
<td>3. Surface preparation</td>
<td></td>
<td></td>
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<td>4. Proofrolling and repair</td>
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<td></td>
<td>5. Engineered fill placement to finish grades</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;D&quot; and Northwest Portion of &quot;F&quot;</td>
<td>1. Clearing, grubbing &amp; stripping</td>
<td>No additional surcharge is needed.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Removal of 3 feet of surcharge</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>3. Surcharge recompaction</td>
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<td>4. Proofrolling and repair</td>
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<td>5. Engineered fill placement not exceeding 1.5 feet to finish grades</td>
<td></td>
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</tr>
<tr>
<td>Portion of Area &quot;G&quot; and Southeast Portion of &quot;F&quot;</td>
<td>1. Clearing, grubbing, &amp; stripping</td>
<td>No additional surcharge is needed. Do not fill. Monitor settlements during and after construction.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Removal of 3 to 4 feet of surcharge to approximately Elevation +8 at eastern edge of area to Elevation +10 at western edge</td>
<td></td>
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<tr>
<td></td>
<td>3. Surcharge recompaction</td>
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<tr>
<td></td>
<td>4. Proofrolling and repair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area &quot;R&quot;</td>
<td>1. Clearing, grubbing, &amp; stripping</td>
<td>Should be reserved for future roadways or open areas. No building or new fills, except to backfill existing slough, should be placed in these areas.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Subdrain installation in slough</td>
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<td></td>
<td>5. Proofrolling and repair</td>
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Note: For delineation of subareas, refer to Plate 11.
Design

- erecting the mid-rise structures on pile supports.
- using flexible utility couplings.
- designing low-rise structures for possible deformation to include provisions to relevel the buildings should settlement become too excessive.

Administrative

- developing the property for rental housing.
- retaining ownership of the dwelling units and thereby assume the liability for damages resulting from ground settlement.

Land Use

HFDC will use its authority granted by Act 15 to change the current Development Plan designation from Residential to High Density Apartment to allow construction of the mid-rise towers. Concurrent with this change in Development Plan designation, applicant will rezone the property to mixed-use apartment (AMX-2) and set a not to exceed building height of 80-feet for the mid-rise structures.

These actions run counter to existing land use designations but are prerequisites for implementing the Master Plan for Crown Property. The proposed project is consistent with general plan policies that encourage making intensive use of urban lands, providing a compact urban form, locating developments so that they are well related to transportation systems, public facilities, and markets, and locating new developments in areas already served by utility systems. The project is consistent also with general plan policies related to the provision of affordable rental housing for people of different income levels, families of various sizes, and housing designed for the elderly and the handicapped.
Social

A residential population of between 430-440 persons could eventually reside in the Waipahu Crown Elderly Housing Project. Residential growth will occur incrementally as the four development phases are completed. Phase I would house approximately 142 persons (80 studios @ 1.0 persons/unit and 31 one-bedrooms @ 2.0 persons/unit) and a comparable number is assumed for the second tower. Residential population for Phases III and IV (112 units of undetermined unit types) is estimated at about 150 persons. In comparison, a residential subdivision of approximately 100 dwellings units could be constructed under present R-5 zoning (5,000 sf lots). Assuming a household size of 3.8 persons/unit, a population of 380 persons could reside in the subdivision. It is believed that in numerical terms, there is no significant difference in population gain between a housing project for the elderly and a residential subdivision. Social and economic variations between an aging and youthful population such as age, income, employment status, and number of dependents will exist but this should not adversely affect neighbors and the community-at-large.

A gain in population, however, raises an issue with the population guidelines established for the Central Oahu Development Plan. The General Plan for the City and County of Honolulu allocates 12.8% to 14.2% of Honolulu’s 2005 population to Central Oahu. The projected population for the Central Oahu Development Plan area is currently at its maximum based on General Plan population distribution guidelines. Implementation of this project could contribute to a level of population in excess of the percentage guideline.

Senior citizens should derive social and economic benefits in the form of clean, comfortable, secure, and affordable living accommodations. Additional benefits include interaction with peers, proximity to public transportation routes, shopping areas, government services (in the planned Leeward Civic Center), a planned senior citizens center, and medical services. Ground space has been set aside for gardening and areas improved for casual strolling and sitting. In total, the project has been located and designed foremost to satisfy some of the social and economic needs of its intended residents.
Community sentiment for the project has thus far been positive. Past and present elected officials from the area have supported residential use of Crown Property and information meetings/presentations to community groups have yielded positive results.

Visual

The two mid-rise residential structures are perhaps the most imposing (and certainly the most visible) features of the project. Seven floors high, they provide a dramatic contrast in building height to adjoining one and two-story residential dwellings and commercial buildings. A cursory visual survey reveals that the buildings will be visible from nearby streets (Mokuola, Hikimoe, and Palwa Streets and Farrington Highway) and as far away as the H-1 Freeway above Waipahu town, Kamehameha Highway at Waiawa Interchange (Waipahu and Pearl City bound lanes), and Farrington Highway from Waiele Bridge to Mokuola Street (Honolulu bound lanes).

To minimize its visual intrusion into a low-rise setting, the L-shaped building(s) have been designed so as not to present a long-continuous facade. Offsets will provide visual interest and visually reduce the bulk of the structure. Landscape plantings around the building and perimeter of the site will aid in "softening" building height and mass.

It should be noted that the proposed structures are not the only mid-rise structures in Waipahu. They are about the same height as the HonFed Building (6 floors) located at the intersection of Depot Road and Farrington Highway and two apartment buildings, Waiele Towers (9 floors) and Waipahu Tower (8 floors). The latter two buildings are located on the makai side of Farrington Highway (on Pupumomi Street) just west of Waipahu Intermediate School.
Infrastructure

Housing projects for the elderly are low traffic generators when compared to traffic generated by residential subdivisions (10.0 vehicle trips/unit/day) or apartment developments (5.20 trips/unit/day). For this project, a conservative trip rate of 3.3 trips/unit/day was used to estimate traffic volume. However, the calculated volume was adjusted to account for the 1:4 parking stall to unit ratio. In other words, parking is planned for approximately 83 vehicles (330 units/4 = 83) and this figure was substituted for the total number of units. The resulting traffic volume is 274 vehicle trips per day (83 x 3.30). During morning (7-9 a.m.) and afternoon (4-6 p.m.) peak hours, the project will contribute an estimated 21 vehicles entering/exiting the development to overall traffic volume on adjacent streets. This contribution to peak hour traffic is not significant and should not adversely affect peak hour traffic or circulation patterns in the immediate area.

Potable water demand for the development is estimated at 0.129 mgd which can be supplied from the existing 12-inch municipal line in Mokuula Street. Off-site improvements are not required to accommodate the project. All on-site improvements will be designed, built, and installed per Board of Water Supply standards.

The anticipated wastewater volume of 0.043 gpd will be discharged into an existing sewer line (24-inch) along Wailani Stream. The sewer line feeds the Waipahu Pump Station which pumps sewerage on to the Honouliuli Wastewater Treatment Plant for treatment and ocean disposal.

Runoff contributed to Wailani Stream by development of Crown Property is estimated at 23 cfs and will be delivered to the stream via a permanent underground drainage system. This system will connect to existing drain lines discharging into the channel. On-site generated peak runoff constitutes a 2% flow increase (975/952 cfs) in peak runoff generated within the 833 acre tributary area. This increase appears to have little effect on peak flow. Planned improvements to Wailani Stream Channel will accommodate the peak flow thereby negating potential flooding of lands adjoining the channel. The channel has a design capacity of 3600 cfs at the Farrington Highway Bridge.
Recreation facilities at nearby Waipahu Field may be used by residents without creating any adverse impact. Recreation needs for tenants will be supplemented by planned facilities within the complex and the planned senior citizens center. Additionally, HFDC will use its authority granted by Act 15 to waive the Park Dedication requirements of the City and County of Honolulu.

Both Police and Fire Departments have not submitted adverse comments concerning the project. The development will neither extend areas of present coverage nor necessitate a decline in protective services in other areas.

Power, telephone, and gas services are available and adequate to accommodate the project. Development plans will be submitted to the various utility companies for review and coordination during project design and planning processes. Facilities located in the project area will be flagged (or identified) to minimize potential conflicts with construction equipment and activities.
SECTION 4

ALTERNATIVES TO THE PROPOSED ACTION

No Action

A "no action" alternative maintains existing conditions for the Crown Property site. No physical impacts would occur and the site will be further overgrown by weedy vegetation.

The no action alternative precludes further expenditure of capital resources towards providing housing for the elderly. Elderly households would be denied the opportunity for residing in a safe, clean residential environment at affordable prices. A no action alternative does nothing to achieve short- and long-term affordable housing goals and conflicts with the mission of the HFDC.

Alternative Site

Crown Property was acquired in 1974 and land banked until such time that residential development was feasible. There are no State-owned lands of comparable size in Waipahu available for residential development. This site is one of several State-owned sites located in different parts of Oahu to be developed for elderly housing.

Alternative Development Concept

A previous development concept proposed a mixed-use low-density residential subdivision comprised of single-family and multi-family dwellings and a senior citizens center.

With respect to environmental impact, this alternative probably would have resulted in less pronounced short-term construction related impacts and long-term visual effects compared to the proposed project. However, because of the uncertainty over ground settlement and the potential liability for repairing or replacing numerous damaged structures, utility lines, and other improvements dispersed across the site this alternative was considered undesirable.
SECTION 5

FINDINGS AND RECOMMENDATION

Chapter 200 (Environmental Impact Statement Rules) of Title 11 Administrative Rules of the State Department of Health specifies criteria for determining if an action may have a significant effect on the environment. The relationship of the proposed project to these criteria is discussed below.

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

Crown Property is devoid of any natural or cultural resources.

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

The project would commit idle land to a productive use that provides housing benefits for the elderly and facilities that benefits the community-at-large. The project site is centrally located near 'downtown' Waipahu, accessible by automobile, and within short walking distance to commercial activities along Farrington Highway, Hikimoe Street, Waipahu Street, and Depot Road.

3. Conflicts with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, Hawaii Revised Statutes, and any revisions thereof and amendments thereto, court decisions or executive orders;

The project does not conflict with long-term state environmental policies or goals.

4. Substantially affects the economic or social welfare of the community or State;

(See (2) above)

5. Substantially affects public health;

The project will not substantially affect public health. Fugitive dust and construction noises may be considered nuisances by nearby businesses and residents but can be mitigated by measures described in this Assessment.

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

The project will place additional demands on water and sewer facilities. However, consultations with government agencies responsible for the aforementioned facilities indicate service and capacity of the respective systems can accommodate the project. Applicant will contribute their fair share for required off-site system improvements.
Population gain to the immediate area (i.e. Waipahu) is an inevitable outcome given the type of project proposed. The estimated 430+ residents are expected to be drawn primarily from Oahu. This amounts to a redistribution of some of Oahu's elderly population rather than a net gain in islandwide population per se. Out-of-State households would not meet the eligibility criteria for renting a unit and would be dismissed from consideration.

(7) Involves a substantial degradation of environmental quality;

Environmental quality will not be substantially degraded.

(8) Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions;

The Waipahu Crown Elderly Housing Project is one of several projects master planned for Crown Property. Other projects include a much needed Leeward Civic Center which will house branch offices of State and County government agencies and a planned senior citizens center.

(9) Substantially affects a rare, threatened or endangered species, or its habitat:

Crown Property harbors no rare, threatened, or endangered plant and animal species.

(10) Detrimentally affects air or water quality or ambient noise levels; or

Noise and dust are unavoidable short-term consequences of construction but can be mitigated by complying with public health regulations governing air pollution and noise.

(11) Effects an environmentally sensitive area such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.

The project is planned in an area of soft, underlying soils. Efforts to remedy this problem have been on-going since 1974. Current geotechnical investigations indicate that the potential for ground settlement still exists and settlement can be expected in certain portions of the site. Engineering, site preparation, architectural and structural design, and administrative measures for mitigating this potential impact have and will be implemented prior to, during, and following building occupancy. All tenants will be apprised of potential ground settlement and the liability of the HFDC, not the tenant, for correcting settlement created damages.

Based on the above criteria, it is concluded that the Waipahu Crown Elderly Housing Project will not result in significant adverse environmental impacts and an Environmental Impact Statement is not required.
REFERENCES


Department of Housing and Community Development, City and County of Honolulu. Final Environmental Impact Statement for West Loch Estates.


State of Hawaii, Department of Accounting and General Services, Division of Public Works. 1979. Revised Environmental Impact Statement for Waipahu Civic Center Land Acquisition. DAGS Job No. 02-10-2066.


APPENDIX A

CONSULTATION PERIOD COMMENTS
July 2, 1990

Mr. Earnest Malterre
94-1134 Hapapa Street
Waipahu, Hawaii 96797

Dear Mr. Malterre:

Attached letter from Mr. Gerald Park, Urban Planner, is forwarded for your information and appropriate action. As the President of the Waipahu Cosmopolitan Seniors, I thought it appropriate that you and your organization should have the opportunity to comment on the proposed Elderly Housing project programmed for construction on the Crown property site.

If you have any comments or recommendations, please forward them to Mr. Gerald Park at the address shown on the attached. I would also appreciate receiving an information copy of your comments.

Your support and interest in this matter is greatly appreciated. Please call upon me or my staff if we can be of any assistance at any time.

With warm personal regards:

JULIE R. DULDULAO
State Representative
45th District

Enclosure

cc: ✓ Mr. Gerald Park, Urban Planner
Mr. Marcel Audant, HFDC

†Minority Leader
†Minority Floor Leader
July 6, 1990

Mr. Gerald Park  
Urban Planner  
1245 Young Street, Suite 201  
Honolulu, HI 96814  

Dear Mr. Park:

SUBJECT: Crown Property Elderly Housing Project  
Waipahu, Ewa Oahu

Please be advised that The Gas Company maintains an underground gas utility system in the project vicinity. We would appreciate the consideration of your planners and consultants during the project planning and design process to provide the necessary coordination during construction and to minimize any potential conflicts with the proposed project.

Thank you for the opportunity to comment on the proposed project. Should there be any questions, or if additional information is desired, please call me at 547-3574.

Very truly yours,

Edwin N. Sawa  
Manager, Engineering

ENS:ssw
July 6, 1990

Gerald Park  
1245 Young Street, Suite 201 
Honolulu, Hawaii 96814

Crown Property Elderly Housing Project  
Waipahu, Ewa, Oahu

Thank you for the opportunity to comment on this subject project in Waipahu. It appears that Hawaiian Tel does not have any facilities in the area which will be affected by construction of this project.

Future telephone service to this project will be served underground from Makuloa Street. Please arrange for electrical plans to be sent to this office for review and comment. If you have any questions, please call Garret Hayashi at 834-6210.

Mark K. Taosaka  
Operations Supervisor -  
OSP Engineering

GH/kr (8225.1tr)
Mr. Gerald Park  
1245 Young Street  
Suite 201  
Honolulu, Hawaii 96814

Dear Mr. Park:

Crown Property Elderly Housing Project  
Waipahu, TMK: 9-4-17: 1

Thank you for your letter of June 25, 1990, requesting our comments on the subject project.

We will require a Traffic Impact Analysis Report (TIAR) to address any impacts the project will have on Farrington Highway. The TIAR should define roadway requirements, potential traffic problems and mitigation measures to correct/minimize facility deficiencies. Costs incurred for required improvements shall be borne by the developer.

Very truly yours,

Edward Y. Hirata  
Director of Transportation
JUL 9 1990

Mr. Gerald Park
1245 Young Street, Suite 201
Honolulu, Hawaii 96814

Dear Mr. Park:

Subject: Elderly Housing
Waipahu, Oahu

This is in response to your June 25, 1990 letter regarding the subject project.

We have no comments to offer at this time. Should there be any questions, please contact Mr. Cedric Takamoto of the Planning Branch at 548-7192.

Very truly yours,

TEUANE TOMINAGA
State Public Works Engineer

CT:hc
July 11, 1990

Mr. Gerald Park  
1245 Young Street, Suite 201  
Honolulu, Hawaii 96814

Dear Mr. Park:

Subject: Environmental Assessment (EA)  
Crown Property Elderly Housing Project  
Tax Map Key: 9-4-17: 01

We have reviewed the subject EA and have the following comments:

1. We have no objections to the proposed elderly housing project.

2. We wish to inform you that no connections to the municipal sewer system will be allowed until the Honouliuli Wastewater Treatment Plant is expanded. Expansion of the primary treatment facility is scheduled for completion in 1993. However, if we are required to provide secondary treatment by the Environmental Protection Agency (EPA) and the State Department of Health (DOH), the completion date will be moved back to 1995.

3. A drainage report should be submitted to our Drainage Section, Division of Engineering, for review and comment.

Very truly yours,

C. Michael Street  
Director and Chief Engineer
July 12, 1990

Mr. Gerald Park  
Urban Planner  
1245 Young Street, Suite 201  
Honolulu, Hawaii  96814

Dear Mr. Park:

Subject: Recreational Assessment  
Crown Property Elderly Housing - Waipahu  
Tax Map Key:  9-4-17: 1

We have made an assessment of the proposed Crown Property Elderly Housing Project in Waipahu and offer the following comments and recommendations.

The size of the proposed elderly housing project would have a significant impact on our public park facilities in the Waipahu area. Senior Citizens' programs and facilities are available at Waipahu Field, located adjacent to the project site. The programs and facilities, however, are limited and are already heavily used. Therefore, we recommend that recreational areas and facilities be provided in the design of the project to serve the project's recreational needs.

We have also determined that the project will be subject to compliance with the City's Park Dedication Ordinance No. 4621. Under the Ordinance, approximately 38,000 square feet of land will be required to be provided as a private park. Procedures and requirements for the private park are specified in the City's Park Dedication Rules and Regulation.

We recommend that contact be made with Jason Yuen of our Executive Policy Planning Unit at 527-6315 to discuss the project's recreational needs and park dedication requirements.

Sincerely,

WALTER M. OZAWA, Director

WMO:js
July 11, 1990

Mr. Gerald Park, Urban Planner
1245 Young Street, Suite 201
Honolulu, Hawaii 96814

Dear Mr. Park:

Subject: Crown Property Elderly Housing Project
Waipahu, Ewa, Oahu

We have reviewed the materials for the above proposed development and would like to offer the following comments.

In the interest of safety for the development's occupants, we urge that security measures (e.g., deadbolts, window locks, adequate overhead lighting, ground/area lighting, and security fencing) be considered when both the residential and any auxiliary structures are designed.

Thank you for the opportunity to comment.

Sincerely,

HARO浦东 KAWAŚAKI
Chief of Police

By
JOSEPH AVEIRO
Assistant Chief of Police
Support Services Bureau
July 16, 1990

Mr. Gerald Park
1245 Young Street, Suite 201
Honolulu, Hawaii 96814

Dear Mr. Park:

Request for Comments Regarding the
Proposed Crown Property Elderly Housing
Project in Waipahu, Oahu

We have reviewed the preliminary information regarding the above referenced project. Based on the information provided, the following comments are offered:

1. The project is consistent with General Plan policies related to the provision of affordable housing for the elderly. However, the projected population for the Central Oahu Development Plan (DP) area is currently at its maximum based on the General Plan population distribution guidelines.

2. The subject property is designated Residential on the Development Plan Land Use Map for Central Oahu. The proposed apartment project is inconsistent with this designation.

3. There are several public facility and infrastructural improvement projects identified on the Central Oahu Development Plan Public Facilities Map within the immediate vicinity of the proposed elderly housing project. These include the Leeward Civic Center, Mokuola Street Widening, Wailani Stream Flood Control and Waiawa Ridge Wastewater Main No. 1. The developer should identify and resolve any potential conflicts between the elderly housing project and these public and private improvements.
4. It is understood that an Act 15 exemption will be requested for this project. Such an exemption would override these GP and DP inconsistencies.

5. The design and site planning of this project should complement the scale of the existing development adjacent to the subject property.

These issues need to be addressed during the course of the approval process for the proposed development. We anticipate that we will have a further opportunity to review this project during this process. If need be, we will provide more detailed comments at that time. Should you have any questions, please contact Bill Medeiros at 527-6089.

Sincerely,

[Signature]

BENJAMIN B. LEE
Chief Planning Officer

BBL: js

cc: HFDC
July 18, 1990

Mr. Gerald Park
Urban Planner
Urban Planning Policy Analysis/
Environmental Studies
1245 Young Street, Suite 201
Honolulu, HI 96814

Dear Mr. Park:

Subject: Draft Environmental Impact Statement (EIS) for Crown Property Elderly Housing Project Waipahu, Ewa, Oahu

We have reviewed the subject EIS and have no comments at this time on the proposed development in the subject area. HECO shall reserve comment pertaining to the protection of existing power lines bordering the development area until construction plans are finalized.

Sincerely,

[Signature]
July 19, 1990

Mr. Gerald Park, Urban Planner
1245 Young Street, Suite 201
Honolulu, Hawaii 96814

Dear Mr. Park:

Thank you for the opportunity to review the Environmental Assessment preparation notice for the proposed Crown Elderly Housing Project, Waipahu, Ewa, Oahu. The following comments are offered:

a. A Department of the Army (DA) permit may be required if fill is placed in the waterway which crosses the project site. For more information about the DA regulatory permit program, please contact Operations Division at 438-9258.

b. According to the preliminary Flood Insurance Rate Map dated September 22, 1989, the project site is located in Zone D (areas in which flood hazards are undetermined).

Sincerely,

[Signature]

Kisuk Cheung
Director of Engineering
Mr. Gerald Park, Urban Planner
1245 Young Street, Suite 201
Honolulu, Hawaii 96814

Dear Mr. Park:

Subject: Your Letter of June 25, 1990 on the Preparation of an Environmental Assessment for the State Housing Finance and Development Corporation's Crown Property Elderly Housing Project. TMK: 9-4-17; PO: 1, Waipahu, Oahu

Thank you for the opportunity to review and comment on the proposed elderly housing project.

We have the following comments to offer:

1. The availability of water will be determined when the building permit application is submitted for our review and approval.

2. If water is made available, the developer will be required to pay the applicable water system facilities and meter charges.

3. Although there is no existing water service at the project site, there is an existing 12-inch water main on Mokuola Street which should be adequate to serve the project.

4. Construction plans should be submitted for our review and approval for installation of 3-inch or larger meters.

5. Any cross-connection control requirements will be made when we review the construction plans.

If you have any questions, please contact Lawrence Whang at 527-6138.

Very truly yours,

KAZU HAYASHIDA
Manager and Chief Engineer

cc: Mr. Marcel Audant, HFDC
July 24, 1990

Mr. Gerald Park
Urban Planner
1245 Young Street, Suite 201
Honolulu, Hawaii 96814

Dear Mr. Park:

Subject: Crown Property Elderly Housing Project
Waipahu, Ewa, Oahu

This is in response to your letter of June 25, 1990, requesting any comments we may have for your Environmental Assessment of the subject project.

We recommend that the Environmental Assessment considers the energy impacts that will result from this project. Since elderly citizens on fixed incomes will reside in this project, steps should be taken to make it as energy efficient as possible. Guidelines should be established to provide for energy-efficient design, landscaping, and appliances.

Thank you for the opportunity to provide these comments which we hope will assist you in your thorough preparation of an Environmental Assessment for the development of Crown Property Elderly Housing Project in Waipahu, Ewa, Oahu.

Sincerely,

[Signature]

for Roger A. Ulveling

RAU/MHK:bE

Effective July 1, 1990 the department name has been changed to Department of Business, Economic Development & Tourism