



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

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November 22, 2000

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Ms. Genevieve Salmonson, Director  
Office of Environmental Quality Control  
State Office Tower  
235 South Beretania Street, Room 702  
Honolulu, HI 96813

OFFICE OF ENVIRONMENTAL  
QUALITY CONTROL

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)  
HAPPY HOMES SUBDIVISION PIPELINE REPLACEMENT  
KEAAU, PUNA DISTRICT, HAWAII**

The Department of Water Supply has reviewed the comments received during the 30-day public comment period which began on October 8, 2000. The agency has determined that this project will not have significant environmental effects and has issued a FONSI. Please publish this notice in the December 8, 2000 Environmental Notice. ✓

We have enclosed a completed OEQC Publication Form and four copies of the final EA. Please call Mr. Owen Nishioka of my staff at (808) 961-8665 if you have any questions.

Sincerely yours,

Milton D. Pavao, P.E.  
Manager

pt

Encs.

copy - Mr. Gerald Park, Urban Planner  
BK, Inc.

*... Water brings progress...*

145

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2000-12-08-MA-FEA-

FINAL ENVIRONMENTAL ASSESSMENT

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**\*HAPPY HOMES SUBDIVISION PIPELINE REPLACEMENT\***  
**DWS JOB No. 99-733**  
**Keaau, Puna District, Hawaii**

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Prepared for:

Department of Water Supply  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

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Prepared by:

BK Inc.  
and  
Gerald Park Urban Planner

November 2000

FINAL ENVIRONMENTAL ASSESSMENT

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***HAPPY HOMES SUBDIVISION PIPELINE REPLACEMENT***

***DWS JOB No. 99-733***

***Keaau, Puna District, Hawaii***

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Prepared in Partial Fulfillment of the Requirements  
of Chapter 343, Hawaii Revised Statutes and  
Title 11, Chapter 200, Hawaii Administrative Rules,  
Department of Health, State of Hawaii

Prepared for:

**Department of Water Supply  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720**

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Prepared by:

**BK Inc.  
675 Kinoole Street  
Hilo, Hawaii 96720**

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**Gerald Park Urban Planner  
1400 Rycroft Street, Suite 876  
Honolulu, Hawaii 96814**

November 2000

## SUMMARY INFORMATION

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**Project:** Happy Homes Subdivision  
Pipeline Replacement

**Applicant:** Department of Water Supply  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

**Approving Agency:** Department of Water Supply  
for Mayor, County of Hawaii

**Tax Map Key:** No Tax Map Key for Roadway  
1-7-17: 14, 15, 18

**Distance:** Approximately 9,750 LF

**Land Owner:** County of Hawaii and Private

**Existing Use:** Roadway

**State Land Use Designation:** Agricultural, Rural

**General Plan:** Orchard  
**Zoning:** A-1a, A-20a, RA-.5a

**Special Management Area:** Outside SMA

**Need for Assessment:** Use of County Land and Funds

**Contact Person:** Owen Nishioka  
Department Water Supply  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

Telephone: (808) 961-8665

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## DESCRIPTION OF THE PROPOSED PROJECT

1

The Department of Water Supply, County of Hawaii, proposes to construct improvements to a section of its Olaa-Mountain View Water System. The proposed project is planned within the Happy Homes Subdivision located in the ahupua'a of Keaau, District of Puna, County, Island, and State of Hawaii. A Location Map is shown in Figure 1.

### A. Purpose of the Project

The proposed project will replace sections of galvanized iron water line that is in deteriorating condition. The Huina Road-Happy Homes section of the Olaa-Mountain View Water System was constructed of galvanized pipes of varying size in 1954. Through years of use, corrosion and build-up inside the pipes (a process called "tuberculation") have reduced the inside diameter of the galvanized pipes thus effectively decreasing flow rates to customers serviced by the system.

In addition, the fragile condition of the water line has resulted in frequent breaks which interrupts water service for customers in this area. As part of its on-going County wide improvement program, the Department of Water Supply has replaced sections of this system with ductile iron pipe. This project proposes to replace the remaining section of the Huina Road-Happy Homes section of galvanized iron pipe with ductile iron pipe.

### B. Technical Characteristics

Approximately 2,950 LF of 8-inch ductile iron pipe will be installed in Huina Road between North Ala Road and the main road (no street name) within the Happy Homes Subdivision. From this intersection, approximately 1,665 LF of 8-inch ductile iron pipe will be placed within the main road between Huina Road and the first subdivision intersection. Approximately 2,430 LF of 6-inch ductile iron pipe will be installed from this intersection to Thirteen Mile Road and approximately 1,500 LF of 6" pipe will be installed in a westerly direction along Thirteen Mile Road. A Preliminary Plan is shown in Figure 2.

Three lines branching from the main line will service lots that do not front on the main road. Approximately 1,700 LF of 6-inch pipe will be installed within gravel and grass roads to service these lots.

New fire hydrants will be installed as part of the project. The fire hydrants will be spaced per Hawaii County Fire Department and Department of Water Supply requirements.

The new waterline will be installed within the same existing road rights-of-way and easements as the existing galvanized water line but on the opposite side. The galvanized water line will later be cut, removed from service, and abandoned in place.

The transfer of service connections from the old to the new pipeline and service laterals will be performed by the Contractor. The Contractor will also replace existing water meters and connect the water meter to the customer's line at no cost to the customer. Service laterals will not be provided to vacant lots. After the improvements are in place, the Department of Water Supply will be able to allow one 5/8" water meter per existing lot of record.

A cut and cover construction method is assumed with excavated material hauled by truck to a stockpile site. Excavation will precede laying of the pipeline and the contractor will coordinate the interaction between excavation, material delivery to the work site, and pipeline installation. It is anticipated that approximately 200 LF of trenching and 200 LF of actual pipeline installation can be performed per day. The pipeline will be placed in a 2-foot wide trench at a minimum depth of 27-32 inches (pipe invert). Shut off valves will be placed about every 1,000 lineal feet which also allows the line to be tested under pressure. Prior to testing, the pipeline and trench will be backfilled to road grade, and following testing, the trench and adjoining area will be restored to pre-construction condition or better.

Following installation, sections of the pipeline will be filled with water and pressure tested. After pressure testing, the pipe will be disinfected with a chlorine solution. The volume of testing water is estimated at 2,600 gallons/1,000 feet of 8" pipe and 1,500 gallons for the 6" pipe. Hydrotesting and chlorinated water will be discharged along the right-of-way and allowed to percolate into the porous lava.

The Contractor will backfill all trenches at the end of each work day. Construction may block access to private driveways for short periods of time. The Contractor, however, will make reasonable effort to provide unimpeded access to all driveways throughout the day or make alternative arrangements with the land owner.

### **C. Economic Characteristics**

#### **1. Cost and Phasing**

The construction cost of the project is estimated at \$0.8 million. Funding will be provided by the Department of Water Supply. The Department may seek additional funding sources to construct the project.

The project will be constructed in one phase and will commence after all approvals are received. The project should be completed within 9 months allowing 5 months for construction and 4 months for material ordering and delivery and Contractor mobilization/demobilization.

#### **2. Land Ownership**

Thirteen Mile Road is either privately owned by the Happy Homes Community Association or a homestead road owned by the County. The proposed improvements will be entirely within County owned rights-of-way or easements granted to the County of Hawaii Water Commission.



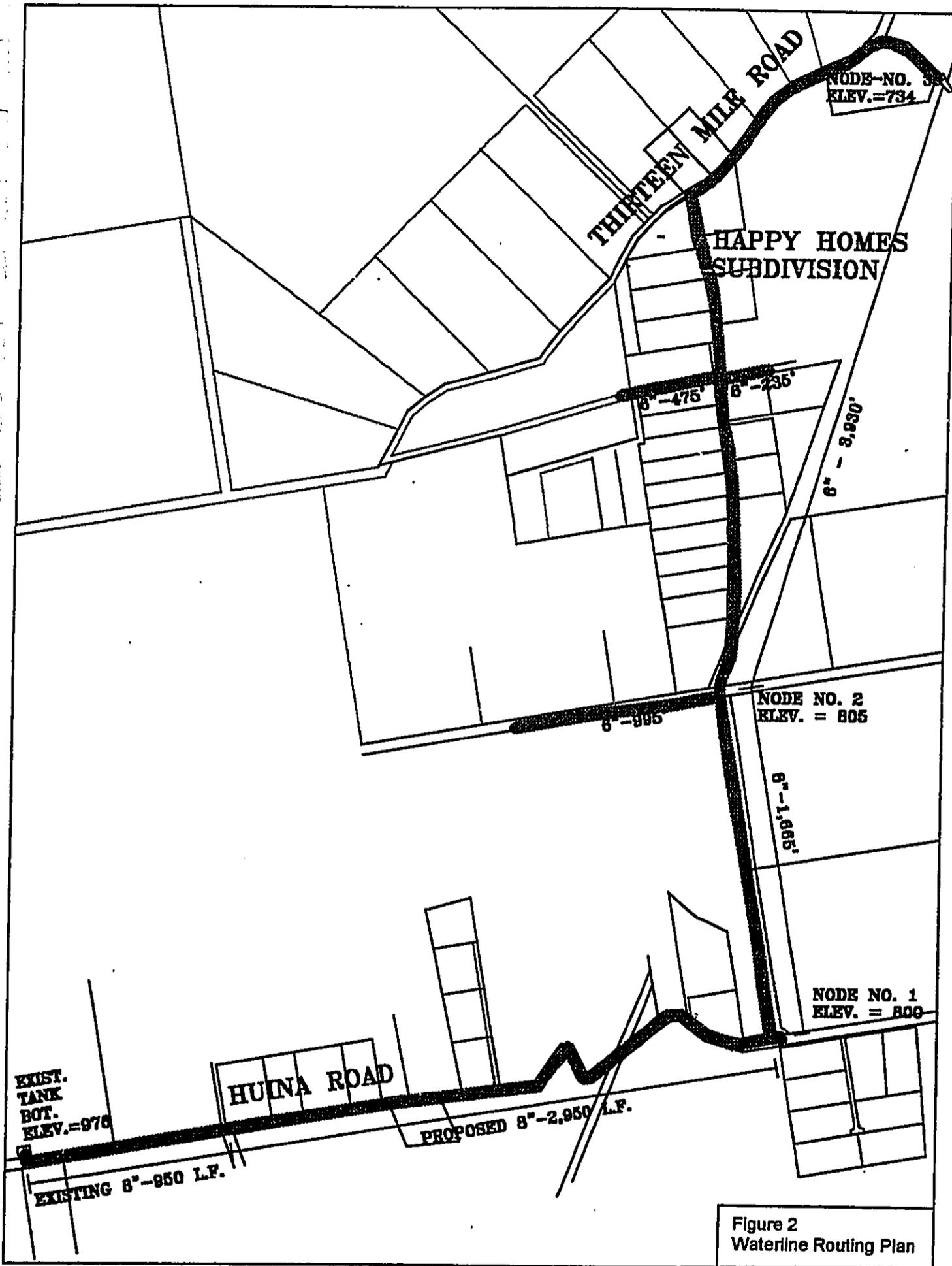


Figure 2  
Waterline Routing Plan

### A. Existing Conditions

Happy Homes Subdivision is served by the Department of Water Supply's Olaa-Mountain View Water System. The existing distribution system is primarily galvanized iron pipe of varying sizes (4", 3" and 2" diameter piping) which was installed in 1954. The system has not been improved since that time although other sections of the Olaa-Mountain View Water System have been upgraded with new pipelines, water storage reservoirs, and service laterals to customers on the system.

Fifty-two active accounts are currently serviced by the water system (Department of Water Supply, 2000). Water to all except one account is provided by a 5/8" meter; the exception is one account with a 1" meter. Customers have experienced low water pressure and intermittent periods of low flow. The shortcomings are not water source related but due to the gradual deterioration and scaling of the waterlines serving the subdivision.

Data provided by the Department of Water Supply indicate that the average daily demand is .028 mgd and the maximum daily demand .042 mgd.

### B. Climate

Rainfall in the project area averages 160 to 170 inches per year (Department of Water Supply, 1999). Monthly rainfall ranges between 10 to 20 inches with the most rainfall occurring between January through March (up to 70 inches of rain/month). Temperature is relatively cool with monthly lows averaging 60° F during the winter to highs in the 80's during the summer months.

### C. Topography

Ground elevation falls from about 800 feet at Huina Road to approximately 760 feet near 13 Mile Road, a distance of about ¼ mile. Despite the difference in grade, the ground surface is relatively flat because of the improved surface comprising the various subdivision roads.

### D. Soils

The Soil Conservation Service (1973) maps two soil types—Olaa silty clay loam (OaC) and Keaukaha extremely rocky muck (rKFD)—in the area of Happy Homes. Based on soil maps, it appears that the subdivision evenly spans both soil types. The Olaa clay is a well drained silty clay. Permeability is rapid, runoff is slow, and the erosion hazard is slight. The surface layer of the Keaukaha soil is very dark brown muck about 8 inches thick. It is underlain by pahoehoe lava bedrock. The soil above the lava is rapidly permeable, runoff is medium, and the erosion hazard is slight.

The Natural Resources Conservation Service (formerly the Soil Conservation Service) has indicated that the soil map unit Olaa silty clay loam (OaC) is designated as "Prime Farmland" (Scoping Letter, August 10, 2000).

The Land Study Bureau (1965) Detailed Land Classification maps and publications provide an analysis of lands and their suitability for agricultural production. A range of factors including soils,

geology, topography, climate, and water resources were analyzed and a rating scheme for assessing overall agricultural productivity developed. Lands are classified from "A" to "E" according to their agricultural suitability with "A" indicating a master productivity rating of very good, and "E" indicating a rating of very poor for agricultural uses.

Four land types--- C178, D48, D174, and D181---are identified in the project area. The capital letter is the master productivity rating of the overall suitability of the land for agricultural production and the number identifies the type of land. "C" and "D" master productivity ratings mean the land is fair and poorly suited for agriculture, respectively. Most of the land type in the vicinity of the Happy Homes Subdivision is rated "D" indicating poorly suited for agricultural use. The northern end of the pipeline passes through a small segment of "C" rated land.

Agricultural Lands of Importance to the State of Hawaii (ALISH) maps have been prepared by the State Department of Agriculture to determine the agricultural importance of agricultural property within the State of Hawaii. Three ALISH designations are found on the ALISH maps: Prime, Unique, and Other Important Agricultural Lands.

The Happy Homes Subdivision is located in an area designated Prime agricultural land on the ALISH map for this section of Hawaii County (See Figure 3). Prime agricultural land is defined as land which has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed according to modern farm methods (ALISH, 1977).

The ALISH map depicting prime agricultural land generally corresponds to the Natural Resources Conservation Service ("NCRS") Prime Farmland Oloa clay soil map unit. The ALISH map, however, does not consider land between the unnamed middle road in the center of the subdivision and Thirteen Mile Road as prime agricultural land; the NRCS maps this area as Prime Farmland.

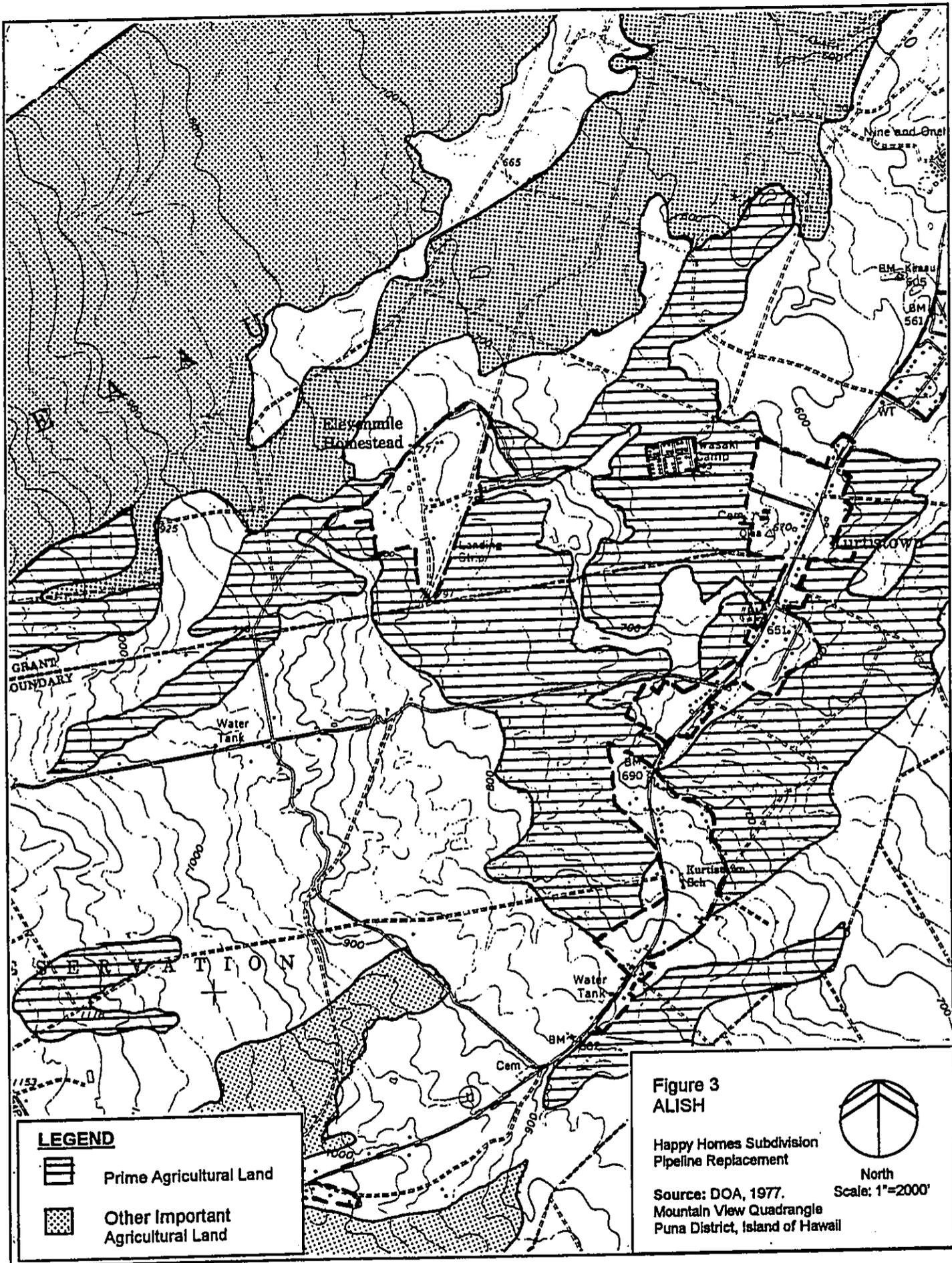
#### **E. Drainage**

No drainage structures were observed during our field inspection and the County has no plans on file for drainage improvements when the subdivision was built. Given its location in a generally low-density, undeveloped agricultural area, surface runoff probably percolates into the underlying ground or collects in low spots alongside the road or on the land until it evaporates or percolates into the ground. Runoff from Huina Road appears to flow in drainage swales downslope in the direction of Volcano Road.

#### **F. Natural Hazards**

A Flood Insurance Rate Map panel has not been printed for this area and, the Federal Emergency Management Agency notes, "Panel not printed; Area All in Zone X". Zone "X" is defined as "areas determined to be outside the 500 year flood plain (FEMA, 1994)".

Lava Flow Hazard Maps (USGS, No Date) divides the Island of Hawaii into "zones that are ranked from 1 [highest] to 9 [lowest] based on the probability of coverage by lava flows". The District of Puna is placed in Zone 3 in which the probability of coverage by lava flows is high. Most of the Puna District is susceptible to lava hazards from Kilauea, Hawaii's youngest and, in modern times, most active volcano.



**LEGEND**

-  Prime Agricultural Land
-  Other Important Agricultural Land

**Figure 3**  
**ALISH**

Happy Homes Subdivision  
Pipeline Replacement

Source: DOA, 1977.  
Mountain View Quadrangle  
Puna District, Island of Hawaii

  
 North  
 Scale: 1"=2000'

### **G. Surface Water**

There are no streams, lakes, ponds, or wetlands within the project area.

### **H. Historical Features**

No archaeological or cultural features were observed within the road right-of-way and easements where the new pipeline is to be placed.

The State Historic Preservation Division, Department of Land and Natural Resources, reports "We have no record of historic sites in this subdivision. It is highly unlikely that any historic sites would be found if the project is limited to the replacement of an old pipe in the original trenches." (Scoping Letter, July 13, 2000)

### **I. Flora and Fauna**

Flora along the rights-of-way and easements consist primarily of sugar cane, Guinea grass, California grass, American guava, bamboo, podocarpus, banyan, hala, areca palm, plumeria, and Hawaiian fern. Shrubs include ti, heliconia, ginger (various species), Surinam cherry, azalea, tiare, hibiscus, monstera, money plant, and dracaena. Some of the inventoried flora may be growing within the road right-of-way and their locations will be pinpointed on a topographic map of the project area. Flora growing within the pipeline alignment will be removed. None of the observed species are considered rare, threatened or endangered or proposed for such status.

A faunal survey was not conducted. Given the developed residential character of the neighborhood, dogs, cats, and rodents are probably the most common animals present. Chirping birds were heard but not seen.

The Fish and Wildlife Service reports that the federally endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) may occur in the vicinity of the project (Scoping Letter, July 27, 2000).

### **J. Land Use Controls**

State and County land use controls governing the use of the property in the area are:

State Land Use Designation: Agricultural, Rural  
County of Hawaii General Plan: Orchard  
Zoning: A-1a, A-20a, RA-.5a  
Special Management Area: Outside Special Management Area

### **K. Public Facilities**

The Olaa-Mountain View Water System is one of four water systems owned and operated by the Department of Water Supply in the district of Puna. The system is divided into eleven (11) service zones and includes three well sources, twelve storage reservoirs, and eight booster pump stations. Each service zone has a water storage reservoir above the zone to provide the proper pressure and storage to meet the daily demands for water and fire-fighting reserve (DWS, 1999). Two service zones—Kurtistown No. 1 and Kurtistown No. 2—are located along Huina Road. Kurtistown No. 1 serves the Upper Huina Road zone and Kurtistown No. 2 serves the Lower Huina Road zone which

includes Happy Homes Subdivision. The latter system includes a 0.050 mg steel reservoir at about elevation 977 feet with a service elevation of 894 feet. There are 52 active accounts on the system and demand averages .028 mgd.

There are no municipal sewer or drainage systems serving the subdivision.

Huina Road, a County road, borders the Happy Homes Subdivision on the south and provides mauka-makai access to and from Volcano Road. This two-way, two-lane, all weather surface road lies within a variable right-of-way. The posted speed limit ranges between 15 to 25 mph.

Overhead power and communication systems are supported on wooden utility poles within or outside the roadway.

**SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS  
AND MEASURES TO MITIGATE ADVERSE EFFECTS**

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3

**A. Assessment Process**

The scope of the project was discussed with the consulting engineer and staff of the Department of Water Supply. State and County agencies were contacted for information relative to their areas of jurisdiction and expertise. Time was spent noting conditions along roadways in the subdivision. The sum total of consultations and field investigations helped to identify existing conditions and features which could affect or be affected by the project.

- No change in the use of land is proposed;
- The pipeline will be confined to existing road rights-of-way and easements;
- No rare, threatened, or endangered flora or fauna were observed in affected road rights-of-way and easements;
- There are no recorded archaeological or cultural resources in the affected road rights-of-way and easements;
- The improvements are not proposed in a flood hazard area; and
- Roads in the Happy Homes Subdivision are narrow and in many places only one vehicle can pass at a time.

**B. Short-term Impacts**

Pipeline construction will be accomplished using cut and cover methods or variations thereof as determined by field conditions. In its simplest application, a trench will be dug to a specific depth, surface and subsurface materials removed, pipe sections laid and joined in the trench, and fill placed along or under the pipe to prevent movement off-line or off-grade. The trench would be back filled, the pipe tested for leaks, and the ground surface restored to pre-construction conditions or better. Trenching work and installation of the pipeline will be limited to 200 LF per day. Construction will be confined to within road rights-of-way and easements except if installation outside the right-of-way or easement cannot be avoided. Reasonable efforts will be taken to avoid damaging private property alongside the road.

Because the pipeline is route specific (versus site specific), construction progresses from one location to another along a staked or pre-determined alignment. Thus, construction impacts, although repetitive over the distance of the pipeline, are temporary at any one location.

Site work is a persistent source of fugitive dust. Site contractors are aware that dust is a nuisance to both workers and people living or working near to work sites and it is imperative for them to maintain stringent dust controls. Frequent water sprinkling is probably the most effective dust control measure given the size of the site and the type and scale of proposed improvements. The Contractor, however, may choose to implement other measures based on their experience with similar projects and job sites. The project is proposed in an area of heavy rainfall and frequent showers also may help in controlling fugitive dust.

The Contractor will be responsible for general housekeeping of the site and for keeping adjacent areas free of mud, sediment, and construction litter and debris. Pollution control measures will comply with Chapter 60.1, Air Pollution Control regulations of the State Department of Health.

Like fugitive dust, construction noise cannot be avoided. The right-of-way is bounded by residential and agricultural uses. Residential properties are considered noise sensitive areas and construction noise will clearly be audible as construction work takes place fronting occupied properties. Exposure to noise will vary by construction phase, the duration of each phase, and the type of equipment used during the different phases. Maximum sound levels in the range of 82-96 db(A) measured at 50 feet from the source would be generated by heavy machinery and pneumatic impact equipment during the site work phase. After site work is completed, reductions in sound levels, frequency, and duration can be expected during actual installation of the pipeline.

Community Noise Control regulations establish maximum permissible sound levels for construction activities occurring within "acoustical" zoning districts. Based on the agriculture zoning of the area, the project is considered to be located in the Class C zoning district for noise control purposes. The maximum permissible daytime sound level in the district is 70 dBA all day (Chapter 46, Community Noise Control, 1996).

In general, construction activities cannot exceed the permissible noise levels for more than ten percent of the time within any twenty minute period except by permit or variance. Any noise source that emits noise levels in excess of the maximum permissible sound levels cannot be operated 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 noise is allowed.

The general contractor will be responsible for obtaining and complying with conditions attached to the permit. Work will be scheduled between the hours of 8:00 AM to 3:30 PM Mondays through Fridays. The contractor will also ensure that construction equipment with motors are properly equipped with mufflers in good operating condition.

Site work will expose soil thus creating opportunities for runoff and erosion. Trenching, grading, and stockpiling of soil will be performed in accordance with erosion control ordinances of the County of Hawaii and approved grading plans. Best Management Practices (BMPS) for erosion and drainage control during construction will be prepared for review and approval by the Department of Public Works. Construction work will not exceed five (5) acres in area thus a NPDES General Permit Authorizing Discharges of Storm Water Associated with Construction Activity will not be required from the State Department of Health.

According to the State Historic Preservation Division, "the proposed project will have "no effect" on significant historic properties. If historic remains of any kind, including burials, are found, work should stop immediately and our office notified of the findings" (Scoping Letter, July 13, 2000). The Department of Water Supply will comply with this directive.

Flora observed along the alignment are common to the Island and State of Hawaii. None are considered rare, threatened, or endangered or proposed for such status.

The Fish and Wildlife Service reports "To the best of our knowledge, no federally endangered, threatened, or candidate species, significant wetlands, or other Federal trust resources occur at the immediate project site. The federally endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*)

may occur in the vicinity of the proposed project site. Because project-related construction will occur in a previously disturbed area and will not involve vegetation clearing near potential roosting sites, no adverse effect to this species is anticipated" (Scoping Letter, July 27, 2000).

Construction in the right-of-way will interrupt subdivision traffic, result in slightly longer travel times, and generally inconvenience motorists. These impacts cannot be avoided. At least one-half of the narrow subdivision rights-of-way will be closed and traffic diverted to the other half during working hours. The road through the Happy Homes Subdivision narrows significantly near its intersection with Thirteen Mile Road and may have to be closed to local traffic during construction hours. Residents may have to take alternative routes to avoid the closure. Depending on the location of residential dwellings with respect to the construction site, residents and workers would be able to access their respective properties from Huina Road or Thirteen Mile Road.

Traffic cones or other directional devices will be placed in the roadway to guide vehicles around work areas. The contractor will implement measures to provide access past work sites and minimize the inconvenience to subdivision residents. Measures to be taken to mitigate traffic impacts include but are not limited to:

- Posting warning signs on both sides of the work area to alert motorists of road work and to slow traffic speed;
- Positioning traffic cones or other directional devices in the roadway to guide vehicles around work areas;
- Posting flagmen to assist in traffic control;
- Providing alternative access if driveway closings cannot be avoided;
- Limiting construction to between 8:00 AM and 3:30 PM, Monday through Friday.

Trenches will be backfilled at the end of the work day. Safety devices and signs will be posted for the duration of construction.

Material deliveries will be scheduled during non-peak traffic hours to minimize impacts on local traffic. Flagmen will be posted for traffic control during material loading and off-loading.

The contractor will coordinate driveway crossings with homeowners. Vehicle access to individual lots (or lots where a common driveway is crossed) may be temporarily restricted during excavation and installation of the pipeline.

Overhead utilities should not be affected during construction. Construction plans will be submitted for review and construction operations coordinated with the respective utility providers. Utility poles close to the pipeline trench will be temporarily braced.

In the event of accidental breakage, emergency crews will be summoned immediately to repair the breakage and affected residents and businesses notified of the disruption. If extensive repair work is required, the contractor will take reasonable effort to provide service to affected residents and agricultural activities.

Temporary interruptions in service to residences are expected when existing water connections are disconnected and water meters replaced and relocated. Affected customers will be notified in advance

of the disruption and the contractor will complete the necessary connections in a timely fashion to minimize inconvenience to water customers.

Chlorinated water to be discharged following disinfection will not adversely impact environmental resources along the pipeline alignment. Department of Water Supply standards for disinfection include flushing the system adequately with chlorinated water of at least 50 mg/l; retaining the chlorinated water inside the pipe overnight; and exposing interior surfaces of the pipe with chlorinated water (300 mg/l) for three hours. The discharge procedure will be consistent with Department of Health standards (Chapter 55, Water Pollution Control, Hawaii Administrative Rules) for discharge into the environment.

### **C. Long-term Impacts**

The proposed Happy Homes Pipeline Replacement Project will help to implement the Department of Water Supply Master Plan for the Oloo-Mountain View System in general and the Happy Homes Subdivision in particular. The project will improve water delivery to customers serviced by the system by eliminating problems experienced with the existing pipeline and improving water flow in terms of volume and pressure. The new water lines will provide more efficient use of the limited supply of water by minimizing water loss due to leakage. Improvements to the subdivision water system were prescribed in the Water Master Plan (1980) but, like all water development and infrastructure improvement projects, actual construction was subject to department priorities and availability of funding.

The improvements will provide adequate fire flow protection which is not currently available in the Happy Homes Subdivision.

The buried pipeline will not result in long-term adverse impacts on air quality, the acoustical environment, historic features, and flora and fauna. The pipeline will not be seen thus no impact on scenic resources or open space quality are anticipated.

The project does not propose a change in the use of agricultural land which is considered prime agricultural land or farmland by the State Department of Agriculture and the NRCS, respectively. All improvements will be confined to existing improved (or disturbed) areas and productive farmland will not be lost as a result of the project.

It is not likely that the increase in water capacity will stimulate population growth and development in the immediate area. After the improvements are in place, the Department of Water Supply policy will be to allow one 5/8" water meter per existing lot of record. Service laterals will not be provided to vacant lots. Further, with a 5/8-inch meter sufficient only to a single dwelling at 600 gallons per day (gpd), this would tend to limit development to only single family dwellings on existing parcels and would not lend itself to additional subdivisions (DWS Response to OEQC Comment Letter, 2000).

The General Plan allows for future urban expansion in areas to the north of Kurtistown (or north of Volcano Road) but does not identify the desired types of urban uses. County planners designate the area Alternate Urban Expansion which does not appear to include the area in which the Happy Homes Subdivision is located.

The subdivision is within an area general planned Orchard. Lots in the subdivision are zoned primarily for residential agriculture and agriculture and range in size from 1/2 acre to 20 acres. The current zoning

for the area should maintain the low-density residential/agriculture character that is consistent with the low-density land use pattern planned for the area.

**A. No Action**

The no action alternative would maintain the status quo with frequent breaks in the pipeline and inadequate water service with no fire protection to the Happy Homes Subdivision. A no action alternative would preclude the occurrence of environmental impacts, short and long-term, beneficial and adverse described in this assessment. The Department of Water Supply does not consider the "No Action" alternative to be a prudent course of action since improvements to the Happy Homes water system is proposed in the Department's Water Master Plan Island of Hawaii.

**B. Alternative Pipeline Size**

A four-inch (4") ductile iron pipe to replace the existing 4" galvanized iron pipe was considered. However, the smallest allowable pipe size, which will provide adequate fire protection in accordance with Department of Water Supply standards, is a 6-inch pipeline. Although a 6-inch pipeline installation will cost more than the 4-inch pipeline, the Department will proceed with the 6-inch pipeline installation. The Department believes that upgrading to provide for adequate fire flow for the area residents overrides the construction cost differential. There should be no significant difference in short and long-term environmental impacts on the physical environment (as described in this assessment) between installing a 4-inch or 6-inch pipeline.

**PERMITS AND APPROVALS**

Permits and approvals listed below are indicative of rather than a comprehensive listing of all permits that may be required to construct the project.

<u>Permit</u>	<u>Authority</u>
County of Hawaii Grubbing, Grading, Excavation and Stockpiling Best Management Practices	Department of Public Works Department of Public Works
State of Hawaii Variance from Pollution Controls National Pollution Discharge Elimination System (NPDES) Permit	Department of Health Department of Health

## AGENCIES AND ORGANIZATIONS TO BE CONSULTED

6

The Draft Environmental Assessment for the Happy Homes Subdivision Pipeline Replacement DWS Job No. 99-733 was published in the Office of Environmental Quality Control Environmental Notice of October 8, 2000 and October 23, 2000. Publication in the Environmental Notice initiated a 30-day public review period which ended on November 8, 2000. The Draft Environmental Assessment was mailed to agencies and organizations listed below. An asterisk \* identifies agencies and organizations that submitted written comments during the review period. All comment letters and responses are found in Appendix B.

### Federal

- \*US Army Corps of Engineers
- \*US Department of Agriculture

### State

- Department of Agriculture
- \*Department of Health
- \*Office of Environmental Quality Control

### County

- \*Corporation Counsel
- \*Department of Public Works
- Planning Department
- \*Police Department
- Fire Department

### Others

- Hawaii Electric Light Company
- GTE Hawaiian Tel
- Happy Homes Subdivision Community Association
- Mountain View Public Library (Draft EA Placed in Library)

## DETERMINATION OF SIGNIFICANCE

7

Chapter 200 (Environmental Impact Statement Rules) of Title 11, Administrative Rules of the State Department of Health, establishes criteria for determining whether an action may have significant effects on the environment (§11-200-12). 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;**

There are no natural or cultural resources within the existing road rights-of-way and easements to be affected by the project. According to the State Historic Preservation Division, "the proposed project will have "no effect" on significant historic properties."

- 2) **Curtails the range of beneficial uses of the environment;**

The underground pipeline will not curtail the beneficial uses of the environment.

- 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 will not conflict with long-term environmental policies, goals, and guidelines of the State of Hawaii.

- 4) **Substantially affects the economic or social welfare of the community or State;**

The project will not substantially affect the economic or social welfare of the community or State.

- 5) **Substantially affects public health;**

The proposed action will not adversely affect public health. On occasion, construction noise will exceed the allowable noise standard established by Hawaii Administrative Rules. Construction noise, however, will be temporary at any one location and will not endanger public health.

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

The project will not result in substantial secondary impacts. The project is intended to better serve customers connected to the existing water system. As a single action, the project will not foster population changes or adverse impacts on public facilities.

- 7) **Involves a substantial degradation of environmental quality;**

Environmental quality will not be degraded as a result of this project. Construction will be confined to existing improved road rights-of-way and easements.

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

The proposed project does not involve a commitment for a larger action. The Department of Water Supply, however, is planning similar replacement projects to upgrade the Olaa-Mountain View Waster System. Planning and the timing of construction of future improvements will depend on availability of public funds and Department of Water Supply Capital Improvement Project priorities.

- 9) **Substantially affects a rare, threatened or endangered species, or its habitat;**

There are no rare, threatened or endangered flora or fauna or habitat in the project area. The Fish and Wildlife Service reported "To the best of our knowledge, no federally endangered, threatened, or candidate species, ... occur at the immediate project site. The federally endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) may occur in the vicinity of the proposed project site. Because project-related construction will occur in a previously disturbed area and will not involve vegetation clearing near potential roosting sites, no adverse effect to this species is anticipated"

- 10) **Detrimentially affects air or water quality or ambient noise levels; or**

Ambient air quality may be affected by fugitive dust and combustion emissions but can be controlled by measures stipulated in this Assessment. Construction noise will be pronounced during site work but should diminish as the pipeline is placed underground. Because construction will be route specific, construction related impacts will be temporary at any location along the pipeline alignment. All construction activities will comply with air quality and noise pollution regulations of the State Department of Health. Best Management Plans will be prepared to minimize construction runoff.

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

The proposed action is not located in a flood hazard area, tsunami zone, beach, erosion prone area, or adjacent to fresh and coastal water bodies. The Fish and Wildlife Service reported that no "significant wetlands, or other Federal trust resources occur at the immediate project site."

The Happy Homes Subdivision, surrounding subdivisions, and Kurtistown are located in an area subject to lava inundation.

- 12) **Substantially affects scenic vistas and viewplanes identified in county or state plans or studies; or**

The proposed improvements will not affect scenic vistas and view planes. Once installed, the underground pipeline will not be visible.

- 13) **Requires substantial energy consumption.**

Water will be distributed by gravity flow from the existing Kurtistown Reservoir No. 2 located along Huina Road above the Happy Homes Subdivision. No pumping stations are planned as part

of the proposed action thus there should be no increase in metered electricity over existing conditions.

Based on the above criteria, the proposed Happy Homes Subdivision Pipeline Replacement will not result in significant adverse environmental impacts and an Environmental Impact Statement should not be required.

## REFERENCES

---

- BK Inc. 2000. *Happy Homes Subdivision Pipeline Replacement. Preliminary Engineering Report.*
- County of Hawaii, Planning Department. 1989. *The General Plan Hawaii County.*
- County of Hawaii, Department of Water Supply. 1980. *Water Master Plan Island of Hawaii.*
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- Federal Emergency Management Agency. 1988 (amended). *Flood Insurance Rate Map, County of Hawaii.*
- Land Study Bureau. 1965. *Detailed Land Classification, Island of Hawaii.* L.S. Bulletin, No. 6. University of Hawaii.
- Park, Gerald. 2000. *Field Observation.*
- State of Hawaii, Department of Agriculture. 1977. *Agricultural Lands of Importance to the State of Hawaii (Maps).* Mountain View Quadrangle.
- State of Hawaii, Department of Land and Natural Resources. 1996. *State Comprehensive Outdoor Recreation Plan.*
- State of Hawaii, Department of Land and Natural Resources, State Historic Preservation Division. July 13, 2000. *Scoping for Happy Homes Subdivision Pipeline Replacement Project, Keaau, Puna, Hawaii Island.*
- U.S. Department of Agriculture, Soil Conservation Service. 1973. *Soil Survey of Island of Hawaii.* In Cooperation with The University of Hawaii Agricultural Experiment Station. U.S. Government Printing Office, Washington D.C.
- U.S. Department of the Interior, Fish and Wildlife Service. July 27, 2000. *Species List for Happy Homes Subdivision Pipeline Replacement Project, Keaau, Puna District, Hawaii.*
- U.S. Department of the Interior, Geological Survey. No Date. *Volcanic and Seismic Hazards on the Island of Hawaii.* Written by Christina Heliker. U.S. Government Printing Office.

**APPENDIX A**

**PRE-ASSESSMENT CONSULTATION LETTERS**

BENJAMIN J. CAYETANO  
GOVERNOR OF HAWAII



STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION  
Kakuhikewa Building, Room 555  
801 Kamohāiwa Boulevard  
Kapolei, Hawaii 98707

TIMOTHY E. JOHNS, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES  
JANET E. KAWELO

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
CONSERVATION AND RESOURCES  
ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
LAND  
STATE PARKS  
WATER RESOURCE MANAGEMENT

July 13, 2000

Mr. Gerald Park  
1400 Rycroft Avenue, Suite 876  
Honolulu, Hawaii 96814-3021

RECEIVED  
7.13.00

LOG NO: 25792 ✓  
DOC NO: 0007PM14

Dear Mr. Park:

**SUBJECT: Scoping for Happy Homes Subdivision Pipeline Replacement Project  
Keaau, Puna, Hawaii Island**

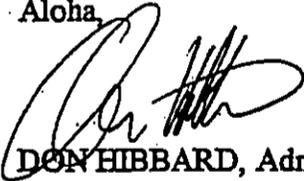
Thank you for your letter of June 30, 2000 and the opportunity to review and comment on the subject application.

The County of Hawaii Department of Water Supply proposes to replace an aged and deteriorating water line in the Happy Homes Subdivision, which was developed in the mid 1950s. We have no record of historic sites in this subdivision, located above Kurtistown. It is highly unlikely that any historic sites would be found if the project is limited to the replacement of an old pipe in the original trenches.

We believe that the proposed project will have "no effect" on significant historic properties. If historic remains of any kind, including burials, are found work should stop immediately and our office notified of the findings.

If you or your staff should have any questions please contact Patrick McCoy (692-8029)

Aloha,

  
DON HIBBARD, Administrator  
State Historic Preservation Division

PM:dnm



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Pacific Islands Ecoregion  
300 Ala Moana Boulevard, Room 3-122  
Box 50088  
Honolulu, Hawaii 96850

RECEIVED  
7.28.00

JUL 27 2000

In Reply Refer To: JAK

Mr. Gerald Park  
Gerald Park Urban Planner  
1400 Rycroft Street  
Suite 876  
Honolulu, Hawaii 96814-3021

Re: Species List for Happy Homes Subdivision Pipeline Replacement Project, Keaau, Puna District, Hawaii

Dear Mr. Park:

This responds to your request for information on threatened and endangered species, critical habitat, and wetlands in the area of the proposed Happy Homes Subdivision Pipeline Replacement Project, Keaau, Puna District, Hawaii. The project sponsor is the Hawaii County Department of Water Supply with funding provided by the U.S. Department of Agriculture. This letter has been prepared under the authority of and in accordance with provisions of the Fish and Wildlife Coordination Act of 1934 [16 USC 661 *et seq.*; 48 Stat. 401], as amended, the Endangered Species Act of 1973 [16 USC 1531 *et seq.*; 87 Stat. 884], as amended, and the National Environmental Policy Act of 1969 [42 USC 4321 *et seq.*; 83 Stat. 852], as amended. Based on these authorities, the Service offers the following comments for your consideration.

The proposed project will involve installation of approximately 10,000 feet of galvanized iron water line, fire hydrants, and replacement of existing water meters. Pipeline installation will require soil excavation, hauling of excavated material to a stockpile site, and backfilling to pre-existing conditions.

We have reviewed the information provided and in our files. To the best of our knowledge, no federally endangered, threatened, or candidate species, significant wetlands, or other Federal trust resources occur at the immediate project site. The federally endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) may occur in the vicinity of the proposed project site. Because project-related construction will occur in a previously disturbed area and will not involve vegetation clearing near potential roosting sites, no adverse effect to this species is anticipated.

We appreciate your concern for threatened and endangered species, wetlands, and other Federal trust resources. If you have questions regarding these comments, please contact Fish and Wildlife Biologist James Kwon by telephone at 808/541-3441 or by facsimile transmission at 808/541-3470.

Sincerely,

A handwritten signature in cursive script that reads "Paul Henson".

Paul Henson  
Field Supervisor  
Ecological Services

cc: USDA, Rural Development



United States  
Department of  
Agriculture

Natural  
Resources  
Conservation  
Service

P.O. Box 50004  
Honolulu, HI  
96850

*Our People...Our Islands...In Harmony*

August 10, 2000

RECEIVED  
8.12.00

Mr. Gerald Park, Urban Planner  
1400 Rycroft Street, Suite 876  
Honolulu, Hawaii 96814-3021

Dear Mr. Park:

Subject: Scoping for Happy Homes Subdivision Pipeline Replacement Project,  
Keaau, Puna District, Hawaii

Please find enclosed a map showing the soil map unit "OaC" which is designated as  
"Prime Farmland." Please let us know if we can be of further assistance.

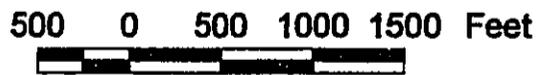
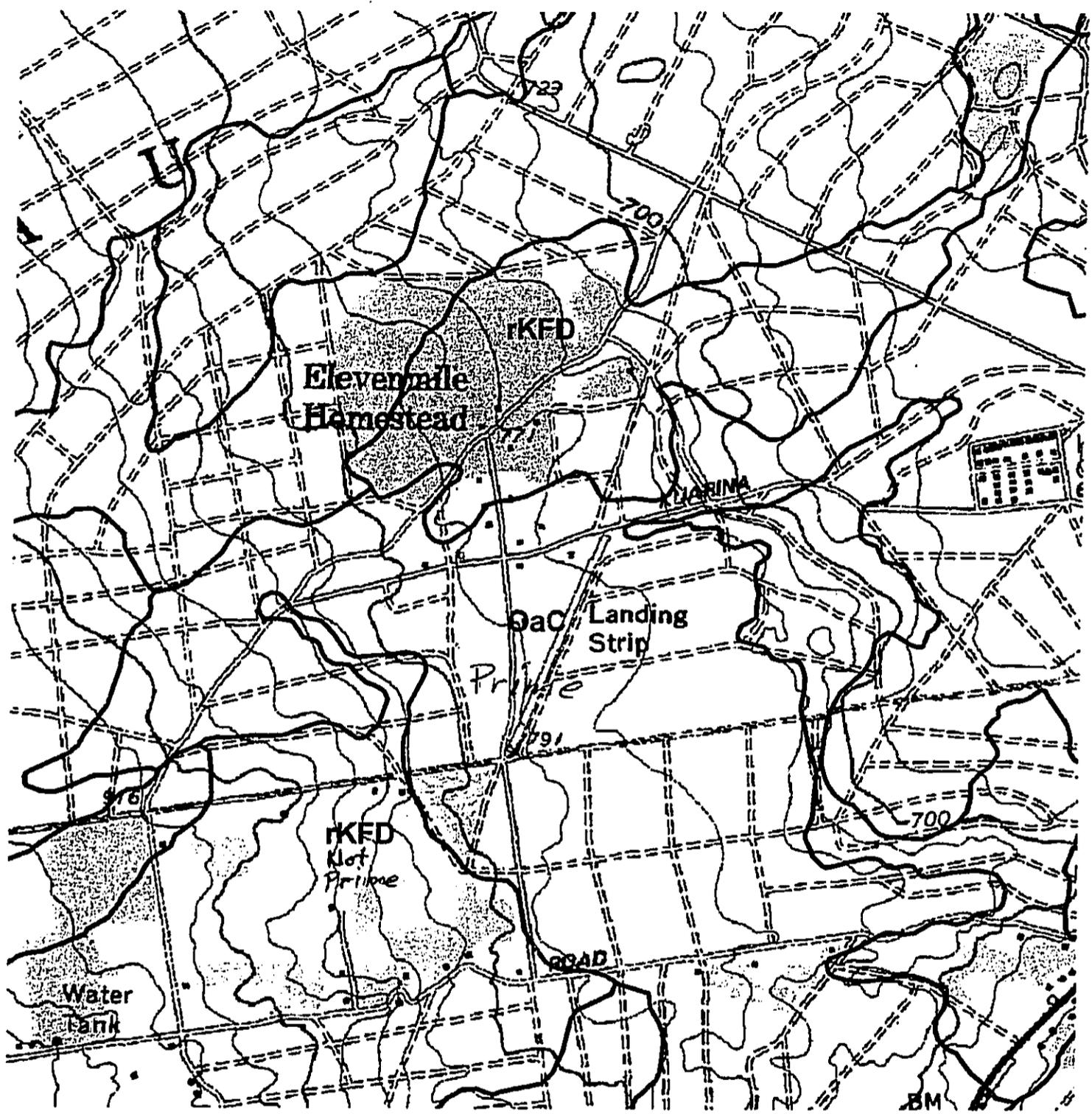
Sincerely,

  
KENNETH M. KANESHIRO  
State Conservationist

Enclosure - 1

The Natural Resources Conservation Service works hand-in-hand with  
the American people to conserve natural resources on private lands.

AN EQUAL OPPORTUNITY EMPLOYER



**OaC** All areas are prime farmland, and potentially highly erodible

**rKFD** Not prime farmland, and potentially highly erodible

**APPENDIX B**  
**COMMENT LETTERS AND RESPONSES**

Stephen K. Yamashiro  
Mayor



County of Hawaii

OFFICE OF THE CORPORATION COUNSEL  
101 Aupuni Street, Suite 213 • Hahaione, Hawaii 96720-1122 • (808) 941-6231 • Fax: (808) 941-6022

Richard Wurdeman  
Corporation Counsel

October 4, 2000

RECEIVED  
10.6.00

Gerald Park, Urban Planner  
1400 Rycroft Street, Suite 876  
Honolulu, Hawaii 96814-3021

Dear Mr. Park:

RE: Environmental Assessment, Happy Homes Subdivision Pipeline Replacement, TMK: 1-7-17:14, 15, 18.

We have reviewed the referenced Environmental Assessment and have no comments. As you note, this simply involves the replacement of existing pipelines in an existing roadway in developed agricultural and residential areas.

Please contact the undersigned if you have further questions. Thank you.

Sincerely,

RICHARD D. WURDEMAN  
Corporation Counsel

By   
Ivan M. Louigos  
Deputy Corporation Counsel

IMT:ch  
cc: Owen Nishioka, Dept. of Water Supply  
water3.a@GeraldPark.ltr

Stephen K. Yamashiro  
Mayor



County of Hawaii

POLICE DEPARTMENT  
343 Kapiolani Street • Hahaione, Hawaii 96720-3998  
(808) 935-3311 • Fax (808) 961-2702

October 9, 2000

RECEIVED  
10.11.00

Wayne G. Carvalho  
Police Chief  
James S. Correa  
Deputy Police Chief

Mr. Gerald Park  
Gerald Park, Urban Planner  
1400 Rycroft Street, Suite 876  
Honolulu, HI 96814-3021

Dear Mr. Park:

SUBJECT: HAPPY HOMES SUBDIVISION PIPELINE REPLACEMENT  
TMK: 1-7-17: 14, 15, 18  
KEAAU, PUNA DISTRICT, HAWAII

The applicant appears to have addressed all traffic safety concerns associated with this project.

Thank you for the opportunity to review and comment.

Sincerely,

WAYNE G. CARVALHO  
POLICE CHIEF

  
THOMAS J. HICKCOX  
ASSISTANT POLICE CHIEF  
FIELD OPERATIONS BUREAU

EO:lk

BENJAMIN J. CAYetano  
Director



STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

230 SOUTH BERETANIA STREET  
SUITE 702  
HONOLULU, HAWAII 96813  
TELEPHONE (808) 586-4185  
FACSIMILE (808) 586-4188

GENEVIEVE SALMONSON  
DIRECTOR

RECEIVED  
10/16/00

October 11, 2000

Mr. Milton D. Pavao, Manager  
Hawaii County Department of Water Supply  
25 Aupuni Street  
Hilo, Hawaii 96720

Dear Mr. Pavao:

Subject: Draft Environmental Assessment for the Happy Homes  
Subdivision Pipeline Replacement, Hawaii

Thank you for the opportunity to review the subject document. We  
have the following comments.

1. This project will replace 2, 3 and 4-inch water pipelines with  
6 and 8-inch lines. After these improvements are in place,  
please describe how many new connections are anticipated. Of  
the new connections, please describe how many of them would  
support new development.
2. If new development would be enabled by the bigger water pipes,  
please describe the associated secondary impacts on other  
inadequate or non-existent infrastructure systems in the  
neighborhood such as roads, drainage and sewer systems.

Should you have any questions, please call Jeyan Thirugnanam at  
586-4185.

Sincerely,

*Genevieve Salmonson*  
Genevieve Salmonson  
Director

c: Gerald Park



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII  
25 AUPUNI STREET • HILO, HAWAII 96720  
TELEPHONE (808) 981-8660 • FAX (808) 261-1657

October 20, 2000

Ms. Genevieve Salmonson, Director  
State of Hawaii  
Office of Environmental Quality Control  
235 South Beretania Street, Suite 702  
Honolulu, HI 96813

DRAFT ENVIRONMENTAL ASSESSMENT  
HAPPY HOMES SUBDIVISION PIPELINE REPLACEMENT

Following are responses to items contained in your October 11, 2000 letter:

1. Based on our prevailing water availability conditions, there is a moratorium for any service in the  
Happy Homes Subdivision. However, upon the completion of this replacement project, a 5/8-inch  
meter will, bearing any unforeseen circumstances, be available for each existing lot of record.  
With this premise, approximately 30-40 parcels would be eligible for a meter. Further, with a 5/8-  
inch meter sufficient only to a single dwelling at 600 gallons per day (gpd), this would tend to limit  
development to only single family dwellings on existing parcels and would not tend itself to  
additional subdivisions.
2. Granted the availability of these meters would enable owners of existing parcels to construct single  
family dwellings, their secondary impact on the inadequate or non-existent infrastructure would be  
minor. These infrastructural concerns could be mitigated by the capital improvements program  
administered by the County Department of Public Works.

If you have any questions, please contact our Water Resources and Planning Branch at 961-8665.

Sincerely yours,

*Milton D. Pavao*

Milton D. Pavao, P.E.  
Manager

GGA:gms

copy - Mr. Bruce Kawamura, BK, Inc. ✓

... Water brings progress...



DEPARTMENT OF THE ARMY  
U. S. ARMY ENGINEER DISTRICT, HONOLULU  
FT. SHAFTER, HAWAII 96828-6440

REPLY TO  
ATTENTION OF

October 11, 2000

RECEIVED  
10/16/00

Civil Works Technical Branch

Mr. Gerald Park, Urban Planner  
1400 Rycroft Street, Suite 876  
Honolulu, Hawaii 96814

Dear Mr. Park:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment (DEA) for the Happy Homes Subdivision Pipeline Replacement Project, Keaau, Hawaii (TMK 1-7-17: 14, 15 and 18). The following comments are provided in accordance with Corps of Engineers authorities to provide flood hazard information and to issue Department of the Army (DA) permits.

a. Based on the information provided, a DA permit is not required at this time. Should any future activities be planned which may affect jurisdictional waters of the U.S., consultation should take place with our Regulatory Branch. For further information, please contact Mr. Farley Watanabe at (808) 438-7701 and refer to file number 2001G0007.

b. The flood hazard information provided on page 6 of the DEA is correct.

Should you require additional information, please contact Ms. Jessie Dobinchick of my staff at (808) 438-8876.

Sincerely,

Lincoln Gayagas  
Acting Chief, Civil Works  
Technical Branch

United States  
Department of  
Agriculture  
Natural  
Resources  
Conservation  
Service

P.O. Box 50004  
Honolulu, HI  
96850

Our People...Our Islands...In Harmony

October 25, 2000

RECEIVED  
10/25/00

Mr. Gerald Park  
Urban Planner  
1400 Rycroft Street, Suite 876  
Honolulu, Hawaii 96814-3021

Dear Mr. Park:

Subject: Environmental Assessment (EA) - Happy Homes Subdivision Pipeline Replacement, Keaau, Puna District, Hawaii

We have reviewed the above mentioned document and have no comments to offer at this time.

Thank you for the opportunity to review this document.

Sincerely,

KENNETH M. KAMESHIRO  
State Conservationist



STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P.O. BOX 3378  
HONOLULU, HAWAII 96801

November 3, 2000

BRUCE S. ANDERSON, Ph.D., M.P.H.  
DIRECTOR OF HEALTH

By mail, please refer to:  
File #

00-202/epc



Mr. Gerald Park  
Urban Planner  
Planning Land Use Research  
Environmental Studies  
1400 Rycroft Street, Suite 876  
Honolulu, Hawaii 96814-3021

Dear Mr. Park:

Subject: Draft Environmental Assessment  
Happy Homes Subdivision Pipeline Replacement  
Keeau, Puna, Hawaii  
TMK: 1-7-17:14, 15, 18

Thank you for allowing us to review and comment on the subject project. We do not have any comments to offer at this time.

Sincerely,

GARY GILL,  
Deputy Director  
Environmental Health Administration

Stephen K. Yamashiro  
Mayor



County of Hawaii  
DEPARTMENT OF PUBLIC WORKS  
75 Arapahoe Street, Room 202 - 11th, Honolulu 96728-4252  
(808) 941-5111 • Fax (808) 941-5409

November 6, 2000

Mr. Gerald Park  
1400 Rycroft Street, Suite 876  
Honolulu, Hawaii 96814-3021

SUBJECT: ENVIRONMENTAL ASSESSMENT  
Happy Homes Subdivision Pipeline Replacement  
Location: Keeau, Puna, Hawaii  
TMK: 1-7-14, 15, 17, & 18

We have reviewed the subject application forwarded by your letter dated September 28, 2000 and have the following comments.

1. Any earthwork activity, including grading and grubbing, shall conform to Chapter 10 - Erosion and Sedimentation Control, of the Hawaii County Code.
2. A permit shall be obtained from the Department of Public Works, as required under Chapter 22, Article 3, Section 22-44 of the Hawaii County Code, for work within the County right-of-way.

Should you have any questions or concerns, please contact Mr. Kelly Gomes of our Engineering Division at (808) 961-8327.

for GALEN M. KUBA, Division Chief  
Engineering Division

KG

c: DWS (Owen Nishioka)



DEC 8 2000

**FILE COPY**

2000-12-08-MA-FEA-

FINAL ENVIRONMENTAL ASSESSMENT

---

**\*HAPPY HOMES SUBDIVISION PIPELINE REPLACEMENT\***  
**DWS JOB No. 99-733**  
**Keaau, Puna District, Hawaii**

---

Prepared for:

Department of Water Supply  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

---

Prepared by:

BK Inc.  
and  
Gerald Park Urban Planner

November 2000

FINAL ENVIRONMENTAL ASSESSMENT

---

***HAPPY HOMES SUBDIVISION PIPELINE REPLACEMENT***

***DWS JOB No. 99-733***

***Keaau, Puna District, Hawaii***

---

Prepared in Partial Fulfillment of the Requirements  
of Chapter 343, Hawaii Revised Statutes and  
Title 11, Chapter 200, Hawaii Administrative Rules,  
Department of Health, State of Hawaii

Prepared for:

**Department of Water Supply  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720**

---

Prepared by:

**BK Inc.  
675 Kinoole Street  
Hilo, Hawaii 96720**

and

**Gerald Park Urban Planner  
1400 Rycroft Street, Suite 876  
Honolulu, Hawaii 96814**

November 2000

## SUMMARY INFORMATION

---

**Project:** Happy Homes Subdivision  
Pipeline Replacement

**Applicant:** Department of Water Supply  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

**Approving Agency:** Department of Water Supply  
for Mayor, County of Hawaii

**Tax Map Key:** No Tax Map Key for Roadway  
1-7-17: 14, 15, 18

**Distance:** Approximately 9,750 LF

**Land Owner:** County of Hawaii and Private

**Existing Use:** Roadway

**State Land Use Designation:** Agricultural, Rural

**General Plan:** Orchard  
**Zoning:** A-1a, A-20a, RA-.5a

**Special Management Area:** Outside SMA

**Need for Assessment:** Use of County Land and Funds

**Contact Person:** Owen Nishioka  
Department Water Supply  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

Telephone: (808) 961-8665

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## DESCRIPTION OF THE PROPOSED PROJECT

1

The Department of Water Supply, County of Hawaii, proposes to construct improvements to a section of its Olaa-Mountain View Water System. The proposed project is planned within the Happy Homes Subdivision located in the ahupua'a of Keaau, District of Puna, County, Island, and State of Hawaii. A Location Map is shown in Figure 1.

### A. Purpose of the Project

The proposed project will replace sections of galvanized iron water line that is in deteriorating condition. The Huina Road-Happy Homes section of the Olaa-Mountain View Water System was constructed of galvanized pipes of varying size in 1954. Through years of use, corrosion and build-up inside the pipes (a process called "tuberculation") have reduced the inside diameter of the galvanized pipes thus effectively decreasing flow rates to customers serviced by the system.

In addition, the fragile condition of the water line has resulted in frequent breaks which interrupts water service for customers in this area. As part of its on-going County wide improvement program, the Department of Water Supply has replaced sections of this system with ductile iron pipe. This project proposes to replace the remaining section of the Huina Road-Happy Homes section of galvanized iron pipe with ductile iron pipe.

### B. Technical Characteristics

Approximately 2,950 LF of 8-inch ductile iron pipe will be installed in Huina Road between North Ala Road and the main road (no street name) within the Happy Homes Subdivision. From this intersection, approximately 1,665 LF of 8-inch ductile iron pipe will be placed within the main road between Huina Road and the first subdivision intersection. Approximately 2,430 LF of 6-inch ductile iron pipe will be installed from this intersection to Thirteen Mile Road and approximately 1,500 LF of 6" pipe will be installed in a westerly direction along Thirteen Mile Road. A Preliminary Plan is shown in Figure 2.

Three lines branching from the main line will service lots that do not front on the main road. Approximately 1,700 LF of 6-inch pipe will be installed within gravel and grass roads to service these lots.

New fire hydrants will be installed as part of the project. The fire hydrants will be spaced per Hawaii County Fire Department and Department of Water Supply requirements.

The new waterline will be installed within the same existing road rights-of-way and easements as the existing galvanized water line but on the opposite side. The galvanized water line will later be cut, removed from service, and abandoned in place.

The transfer of service connections from the old to the new pipeline and service laterals will be performed by the Contractor. The Contractor will also replace existing water meters and connect the water meter to the customer's line at no cost to the customer. Service laterals will not be provided to vacant lots. After the improvements are in place, the Department of Water Supply will be able to allow one 5/8" water meter per existing lot of record.

A cut and cover construction method is assumed with excavated material hauled by truck to a stockpile site. Excavation will precede laying of the pipeline and the contractor will coordinate the interaction between excavation, material delivery to the work site, and pipeline installation. It is anticipated that approximately 200 LF of trenching and 200 LF of actual pipeline installation can be performed per day. The pipeline will be placed in a 2-foot wide trench at a minimum depth of 27-32 inches (pipe invert). Shut off valves will be placed about every 1,000 lineal feet which also allows the line to be tested under pressure. Prior to testing, the pipeline and trench will be backfilled to road grade, and following testing, the trench and adjoining area will be restored to pre-construction condition or better.

Following installation, sections of the pipeline will be filled with water and pressure tested. After pressure testing, the pipe will be disinfected with a chlorine solution. The volume of testing water is estimated at 2,600 gallons/1,000 feet of 8" pipe and 1,500 gallons for the 6" pipe. Hydrotesting and chlorinated water will be discharged along the right-of-way and allowed to percolate into the porous lava.

The Contractor will backfill all trenches at the end of each work day. Construction may block access to private driveways for short periods of time. The Contractor, however, will make reasonable effort to provide unimpeded access to all driveways throughout the day or make alternative arrangements with the land owner.

### **C. Economic Characteristics**

#### **1. Cost and Phasing**

The construction cost of the project is estimated at \$0.8 million. Funding will be provided by the Department of Water Supply. The Department may seek additional funding sources to construct the project.

The project will be constructed in one phase and will commence after all approvals are received. The project should be completed within 9 months allowing 5 months for construction and 4 months for material ordering and delivery and Contractor mobilization/demobilization.

#### **2. Land Ownership**

Thirteen Mile Road is either privately owned by the Happy Homes Community Association or a homestead road owned by the County. The proposed improvements will be entirely within County owned rights-of-way or easements granted to the County of Hawaii Water Commission.



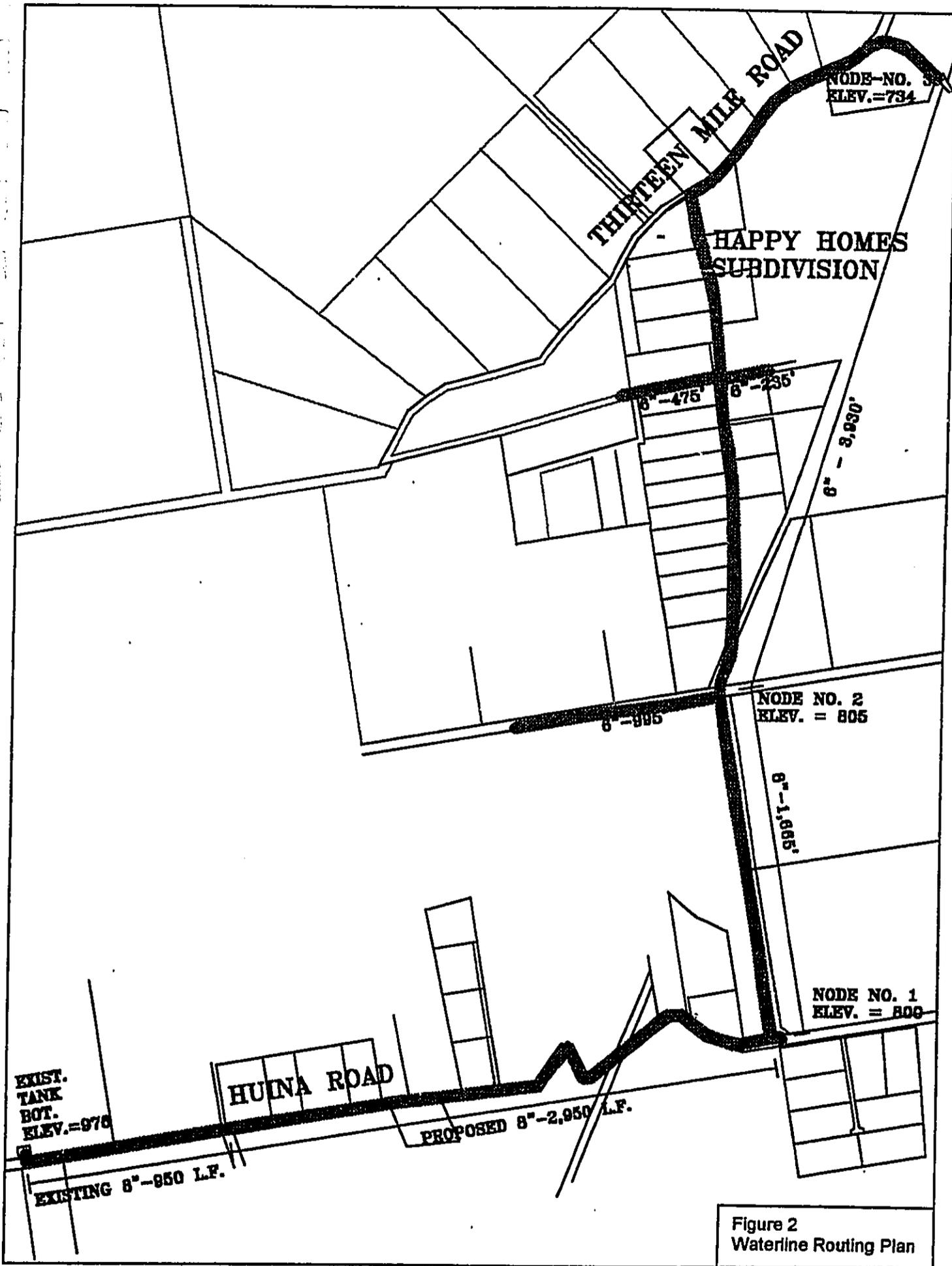


Figure 2  
Waterline Routing Plan

### A. Existing Conditions

Happy Homes Subdivision is served by the Department of Water Supply's Olaa-Mountain View Water System. The existing distribution system is primarily galvanized iron pipe of varying sizes (4", 3" and 2" diameter piping) which was installed in 1954. The system has not been improved since that time although other sections of the Olaa-Mountain View Water System have been upgraded with new pipelines, water storage reservoirs, and service laterals to customers on the system.

Fifty-two active accounts are currently serviced by the water system (Department of Water Supply, 2000). Water to all except one account is provided by a 5/8" meter; the exception is one account with a 1" meter. Customers have experienced low water pressure and intermittent periods of low flow. The shortcomings are not water source related but due to the gradual deterioration and scaling of the waterlines serving the subdivision.

Data provided by the Department of Water Supply indicate that the average daily demand is .028 mgd and the maximum daily demand .042 mgd.

### B. Climate

Rainfall in the project area averages 160 to 170 inches per year (Department of Water Supply, 1999). Monthly rainfall ranges between 10 to 20 inches with the most rainfall occurring between January through March (up to 70 inches of rain/month). Temperature is relatively cool with monthly lows averaging 60° F during the winter to highs in the 80's during the summer months.

### C. Topography

Ground elevation falls from about 800 feet at Huina Road to approximately 760 feet near 13 Mile Road, a distance of about ¼ mile. Despite the difference in grade, the ground surface is relatively flat because of the improved surface comprising the various subdivision roads.

### D. Soils

The Soil Conservation Service (1973) maps two soil types—Olaa silty clay loam (OaC) and Keaukaha extremely rocky muck (rKFD)—in the area of Happy Homes. Based on soil maps, it appears that the subdivision evenly spans both soil types. The Olaa clay is a well drained silty clay. Permeability is rapid, runoff is slow, and the erosion hazard is slight. The surface layer of the Keaukaha soil is very dark brown muck about 8 inches thick. It is underlain by pahoehoe lava bedrock. The soil above the lava is rapidly permeable, runoff is medium, and the erosion hazard is slight.

The Natural Resources Conservation Service (formerly the Soil Conservation Service) has indicated that the soil map unit Olaa silty clay loam (OaC) is designated as "Prime Farmland" (Scoping Letter, August 10, 2000).

The Land Study Bureau (1965) Detailed Land Classification maps and publications provide an analysis of lands and their suitability for agricultural production. A range of factors including soils,

geology, topography, climate, and water resources were analyzed and a rating scheme for assessing overall agricultural productivity developed. Lands are classified from "A" to "E" according to their agricultural suitability with "A" indicating a master productivity rating of very good, and "E" indicating a rating of very poor for agricultural uses.

Four land types--- C178, D48, D174, and D181---are identified in the project area. The capital letter is the master productivity rating of the overall suitability of the land for agricultural production and the number identifies the type of land. "C" and "D" master productivity ratings mean the land is fair and poorly suited for agriculture, respectively. Most of the land type in the vicinity of the Happy Homes Subdivision is rated "D" indicating poorly suited for agricultural use. The northern end of the pipeline passes through a small segment of "C" rated land.

Agricultural Lands of Importance to the State of Hawaii (ALISH) maps have been prepared by the State Department of Agriculture to determine the agricultural importance of agricultural property within the State of Hawaii. Three ALISH designations are found on the ALISH maps: Prime, Unique, and Other Important Agricultural Lands.

The Happy Homes Subdivision is located in an area designated Prime agricultural land on the ALISH map for this section of Hawaii County (See Figure 3). Prime agricultural land is defined as land which has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed according to modern farm methods (ALISH, 1977).

The ALISH map depicting prime agricultural land generally corresponds to the Natural Resources Conservation Service ("NCRS") Prime Farmland Oloa clay soil map unit. The ALISH map, however, does not consider land between the unnamed middle road in the center of the subdivision and Thirteen Mile Road as prime agricultural land; the NRCS maps this area as Prime Farmland.

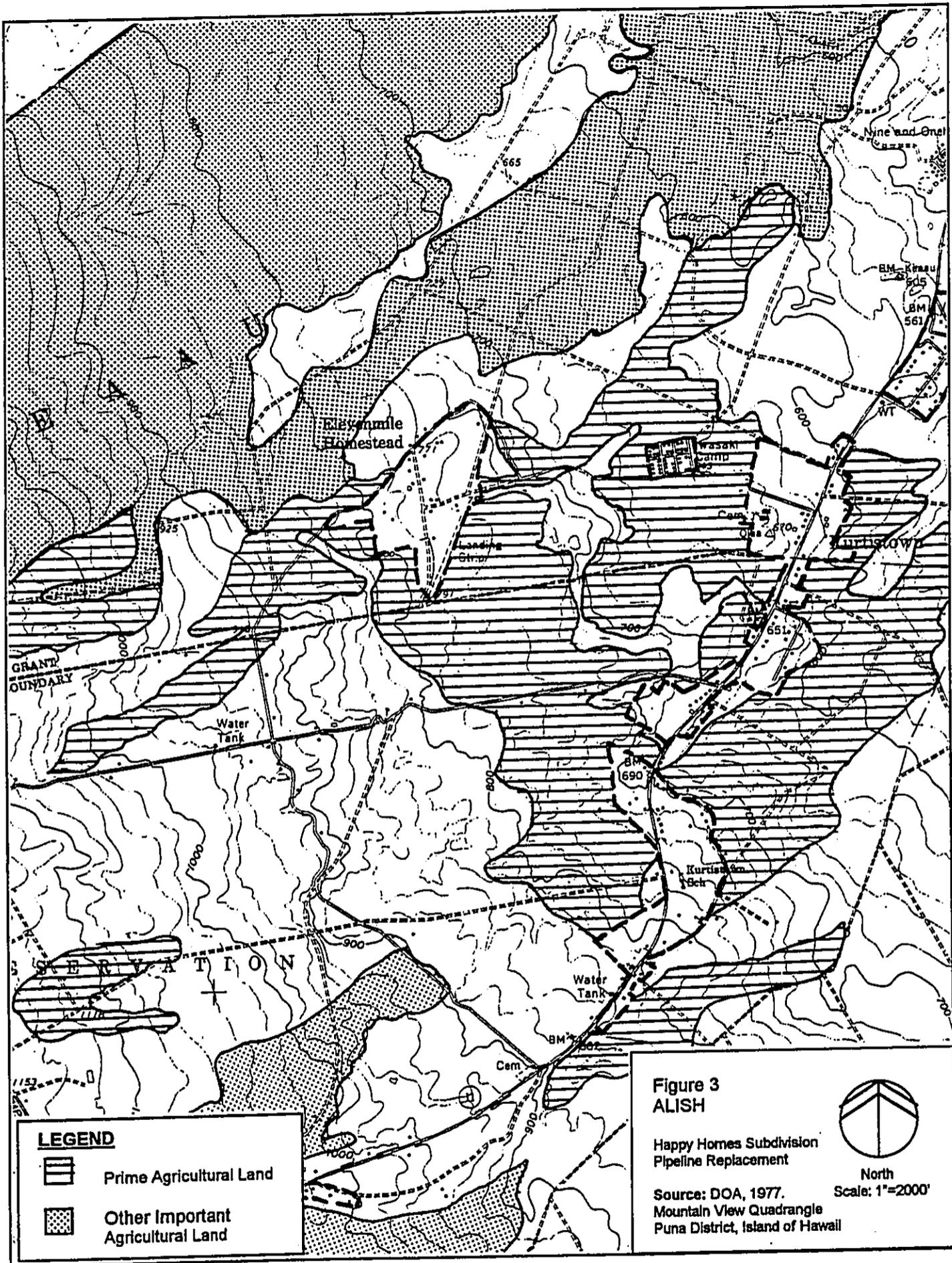
#### **E. Drainage**

No drainage structures were observed during our field inspection and the County has no plans on file for drainage improvements when the subdivision was built. Given its location in a generally low-density, undeveloped agricultural area, surface runoff probably percolates into the underlying ground or collects in low spots alongside the road or on the land until it evaporates or percolates into the ground. Runoff from Huina Road appears to flow in drainage swales downslope in the direction of Volcano Road.

#### **F. Natural Hazards**

A Flood Insurance Rate Map panel has not been printed for this area and, the Federal Emergency Management Agency notes, "Panel not printed; Area All in Zone X". Zone "X" is defined as "areas determined to be outside the 500 year flood plain (FEMA, 1994)".

Lava Flow Hazard Maps (USGS, No Date) divides the Island of Hawaii into "zones that are ranked from 1 [highest] to 9 [lowest] based on the probability of coverage by lava flows". The District of Puna is placed in Zone 3 in which the probability of coverage by lava flows is high. Most of the Puna District is susceptible to lava hazards from Kilauea, Hawaii's youngest and, in modern times, most active volcano.



**LEGEND**

- Prime Agricultural Land
- Other Important Agricultural Land

**Figure 3**  
**ALISH**

Happy Homes Subdivision  
Pipeline Replacement

Source: DOA, 1977.  
Mountain View Quadrangle  
Puna District, Island of Hawaii

North  
Scale: 1"=2000'

### **G. Surface Water**

There are no streams, lakes, ponds, or wetlands within the project area.

### **H. Historical Features**

No archaeological or cultural features were observed within the road right-of-way and easements where the new pipeline is to be placed.

The State Historic Preservation Division, Department of Land and Natural Resources, reports "We have no record of historic sites in this subdivision. It is highly unlikely that any historic sites would be found if the project is limited to the replacement of an old pipe in the original trenches." (Scoping Letter, July 13, 2000)

### **I. Flora and Fauna**

Flora along the rights-of-way and easements consist primarily of sugar cane, Guinea grass, California grass, American guava, bamboo, podocarpus, banyan, hala, areca palm, plumeria, and Hawaiian fern. Shrubs include ti, heliconia, ginger (various species), Surinam cherry, azalea, tiare, hibiscus, monstera, money plant, and dracaena. Some of the inventoried flora may be growing within the road right-of-way and their locations will be pinpointed on a topographic map of the project area. Flora growing within the pipeline alignment will be removed. None of the observed species are considered rare, threatened or endangered or proposed for such status.

A faunal survey was not conducted. Given the developed residential character of the neighborhood, dogs, cats, and rodents are probably the most common animals present. Chirping birds were heard but not seen.

The Fish and Wildlife Service reports that the federally endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) may occur in the vicinity of the project (Scoping Letter, July 27, 2000).

### **J. Land Use Controls**

State and County land use controls governing the use of the property in the area are:

State Land Use Designation: Agricultural, Rural  
County of Hawaii General Plan: Orchard  
Zoning: A-1a, A-20a, RA-.5a  
Special Management Area: Outside Special Management Area

### **K. Public Facilities**

The Olaa-Mountain View Water System is one of four water systems owned and operated by the Department of Water Supply in the district of Puna. The system is divided into eleven (11) service zones and includes three well sources, twelve storage reservoirs, and eight booster pump stations. Each service zone has a water storage reservoir above the zone to provide the proper pressure and storage to meet the daily demands for water and fire-fighting reserve (DWS, 1999). Two service zones—Kurtistown No. 1 and Kurtistown No. 2—are located along Huina Road. Kurtistown No. 1 serves the Upper Huina Road zone and Kurtistown No. 2 serves the Lower Huina Road zone which

includes Happy Homes Subdivision. The latter system includes a 0.050 mg steel reservoir at about elevation 977 feet with a service elevation of 894 feet. There are 52 active accounts on the system and demand averages .028 mgd.

There are no municipal sewer or drainage systems serving the subdivision.

Huina Road, a County road, borders the Happy Homes Subdivision on the south and provides mauka-makai access to and from Volcano Road. This two-way, two-lane, all weather surface road lies within a variable right-of-way. The posted speed limit ranges between 15 to 25 mph.

Overhead power and communication systems are supported on wooden utility poles within or outside the roadway.

**SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS  
AND MEASURES TO MITIGATE ADVERSE EFFECTS**

---

3

**A. Assessment Process**

The scope of the project was discussed with the consulting engineer and staff of the Department of Water Supply. State and County agencies were contacted for information relative to their areas of jurisdiction and expertise. Time was spent noting conditions along roadways in the subdivision. The sum total of consultations and field investigations helped to identify existing conditions and features which could affect or be affected by the project.

- No change in the use of land is proposed;
- The pipeline will be confined to existing road rights-of-way and easements;
- No rare, threatened, or endangered flora or fauna were observed in affected road rights-of-way and easements;
- There are no recorded archaeological or cultural resources in the affected road rights-of-way and easements;
- The improvements are not proposed in a flood hazard area; and
- Roads in the Happy Homes Subdivision are narrow and in many places only one vehicle can pass at a time.

**B. Short-term Impacts**

Pipeline construction will be accomplished using cut and cover methods or variations thereof as determined by field conditions. In its simplest application, a trench will be dug to a specific depth, surface and subsurface materials removed, pipe sections laid and joined in the trench, and fill placed along or under the pipe to prevent movement off-line or off-grade. The trench would be back filled, the pipe tested for leaks, and the ground surface restored to pre-construction conditions or better. Trenching work and installation of the pipeline will be limited to 200 LF per day. Construction will be confined to within road rights-of-way and easements except if installation outside the right-of-way or easement cannot be avoided. Reasonable efforts will be taken to avoid damaging private property alongside the road.

Because the pipeline is route specific (versus site specific), construction progresses from one location to another along a staked or pre-determined alignment. Thus, construction impacts, although repetitive over the distance of the pipeline, are temporary at any one location.

Site work is a persistent source of fugitive dust. Site contractors are aware that dust is a nuisance to both workers and people living or working near to work sites and it is imperative for them to maintain stringent dust controls. Frequent water sprinkling is probably the most effective dust control measure given the size of the site and the type and scale of proposed improvements. The Contractor, however, may choose to implement other measures based on their experience with similar projects and job sites. The project is proposed in an area of heavy rainfall and frequent showers also may help in controlling fugitive dust.

The Contractor will be responsible for general housekeeping of the site and for keeping adjacent areas free of mud, sediment, and construction litter and debris. Pollution control measures will comply with Chapter 60.1, Air Pollution Control regulations of the State Department of Health.

Like fugitive dust, construction noise cannot be avoided. The right-of-way is bounded by residential and agricultural uses. Residential properties are considered noise sensitive areas and construction noise will clearly be audible as construction work takes place fronting occupied properties. Exposure to noise will vary by construction phase, the duration of each phase, and the type of equipment used during the different phases. Maximum sound levels in the range of 82-96 db(A) measured at 50 feet from the source would be generated by heavy machinery and pneumatic impact equipment during the site work phase. After site work is completed, reductions in sound levels, frequency, and duration can be expected during actual installation of the pipeline.

Community Noise Control regulations establish maximum permissible sound levels for construction activities occurring within "acoustical" zoning districts. Based on the agriculture zoning of the area, the project is considered to be located in the Class C zoning district for noise control purposes. The maximum permissible daytime sound level in the district is 70 dBA all day (Chapter 46, Community Noise Control, 1996).

In general, construction activities cannot exceed the permissible noise levels for more than ten percent of the time within any twenty minute period except by permit or variance. Any noise source that emits noise levels in excess of the maximum permissible sound levels cannot be operated 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 noise is allowed.

The general contractor will be responsible for obtaining and complying with conditions attached to the permit. Work will be scheduled between the hours of 8:00 AM to 3:30 PM Mondays through Fridays. The contractor will also ensure that construction equipment with motors are properly equipped with mufflers in good operating condition.

Site work will expose soil thus creating opportunities for runoff and erosion. Trenching, grading, and stockpiling of soil will be performed in accordance with erosion control ordinances of the County of Hawaii and approved grading plans. Best Management Practices (BMPS) for erosion and drainage control during construction will be prepared for review and approval by the Department of Public Works. Construction work will not exceed five (5) acres in area thus a NPDES General Permit Authorizing Discharges of Storm Water Associated with Construction Activity will not be required from the State Department of Health.

According to the State Historic Preservation Division, "the proposed project will have "no effect" on significant historic properties. If historic remains of any kind, including burials, are found, work should stop immediately and our office notified of the findings" (Scoping Letter, July 13, 2000). The Department of Water Supply will comply with this directive.

Flora observed along the alignment are common to the Island and State of Hawaii. None are considered rare, threatened, or endangered or proposed for such status.

The Fish and Wildlife Service reports "To the best of our knowledge, no federally endangered, threatened, or candidate species, significant wetlands, or other Federal trust resources occur at the immediate project site. The federally endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*)

may occur in the vicinity of the proposed project site. Because project-related construction will occur in a previously disturbed area and will not involve vegetation clearing near potential roosting sites, no adverse effect to this species is anticipated" (Scoping Letter, July 27, 2000).

Construction in the right-of-way will interrupt subdivision traffic, result in slightly longer travel times, and generally inconvenience motorists. These impacts cannot be avoided. At least one-half of the narrow subdivision rights-of-way will be closed and traffic diverted to the other half during working hours. The road through the Happy Homes Subdivision narrows significantly near its intersection with Thirteen Mile Road and may have to be closed to local traffic during construction hours. Residents may have to take alternative routes to avoid the closure. Depending on the location of residential dwellings with respect to the construction site, residents and workers would be able to access their respective properties from Huina Road or Thirteen Mile Road.

Traffic cones or other directional devices will be placed in the roadway to guide vehicles around work areas. The contractor will implement measures to provide access past work sites and minimize the inconvenience to subdivision residents. Measures to be taken to mitigate traffic impacts include but are not limited to:

- Posting warning signs on both sides of the work area to alert motorists of road work and to slow traffic speed;
- Positioning traffic cones or other directional devices in the roadway to guide vehicles around work areas;
- Posting flagmen to assist in traffic control;
- Providing alternative access if driveway closings cannot be avoided;
- Limiting construction to between 8:00 AM and 3:30 PM, Monday through Friday.

Trenches will be backfilled at the end of the work day. Safety devices and signs will be posted for the duration of construction.

Material deliveries will be scheduled during non-peak traffic hours to minimize impacts on local traffic. Flagmen will be posted for traffic control during material loading and off-loading.

The contractor will coordinate driveway crossings with homeowners. Vehicle access to individual lots (or lots where a common driveway is crossed) may be temporarily restricted during excavation and installation of the pipeline.

Overhead utilities should not be affected during construction. Construction plans will be submitted for review and construction operations coordinated with the respective utility providers. Utility poles close to the pipeline trench will be temporarily braced.

In the event of accidental breakage, emergency crews will be summoned immediately to repair the breakage and affected residents and businesses notified of the disruption. If extensive repair work is required, the contractor will take reasonable effort to provide service to affected residents and agricultural activities.

Temporary interruptions in service to residences are expected when existing water connections are disconnected and water meters replaced and relocated. Affected customers will be notified in advance

of the disruption and the contractor will complete the necessary connections in a timely fashion to minimize inconvenience to water customers.

Chlorinated water to be discharged following disinfection will not adversely impact environmental resources along the pipeline alignment. Department of Water Supply standards for disinfection include flushing the system adequately with chlorinated water of at least 50 mg/l; retaining the chlorinated water inside the pipe overnight; and exposing interior surfaces of the pipe with chlorinated water (300 mg/l) for three hours. The discharge procedure will be consistent with Department of Health standards (Chapter 55, Water Pollution Control, Hawaii Administrative Rules) for discharge into the environment.

### **C. Long-term Impacts**

The proposed Happy Homes Pipeline Replacement Project will help to implement the Department of Water Supply Master Plan for the Oloa-Mountain View System in general and the Happy Homes Subdivision in particular. The project will improve water delivery to customers serviced by the system by eliminating problems experienced with the existing pipeline and improving water flow in terms of volume and pressure. The new water lines will provide more efficient use of the limited supply of water by minimizing water loss due to leakage. Improvements to the subdivision water system were prescribed in the Water Master Plan (1980) but, like all water development and infrastructure improvement projects, actual construction was subject to department priorities and availability of funding.

The improvements will provide adequate fire flow protection which is not currently available in the Happy Homes Subdivision.

The buried pipeline will not result in long-term adverse impacts on air quality, the acoustical environment, historic features, and flora and fauna. The pipeline will not be seen thus no impact on scenic resources or open space quality are anticipated.

The project does not propose a change in the use of agricultural land which is considered prime agricultural land or farmland by the State Department of Agriculture and the NRCS, respectively. All improvements will be confined to existing improved (or disturbed) areas and productive farmland will not be lost as a result of the project.

It is not likely that the increase in water capacity will stimulate population growth and development in the immediate area. After the improvements are in place, the Department of Water Supply policy will be to allow one 5/8" water meter per existing lot of record. Service laterals will not be provided to vacant lots. Further, with a 5/8-inch meter sufficient only to a single dwelling at 600 gallons per day (gpd), this would tend to limit development to only single family dwellings on existing parcels and would not lend itself to additional subdivisions (DWS Response to OEQC Comment Letter, 2000).

The General Plan allows for future urban expansion in areas to the north of Kurtistown (or north of Volcano Road) but does not identify the desired types of urban uses. County planners designate the area Alternate Urban Expansion which does not appear to include the area in which the Happy Homes Subdivision is located.

The subdivision is within an area general planned Orchard. Lots in the subdivision are zoned primarily for residential agriculture and agriculture and range in size from 1/2 acre to 20 acres. The current zoning

for the area should maintain the low-density residential/agriculture character that is consistent with the low-density land use pattern planned for the area.

**A. No Action**

The no action alternative would maintain the status quo with frequent breaks in the pipeline and inadequate water service with no fire protection to the Happy Homes Subdivision. A no action alternative would preclude the occurrence of environmental impacts, short and long-term, beneficial and adverse described in this assessment. The Department of Water Supply does not consider the "No Action" alternative to be a prudent course of action since improvements to the Happy Homes water system is proposed in the Department's Water Master Plan Island of Hawaii.

**B. Alternative Pipeline Size**

A four-inch (4") ductile iron pipe to replace the existing 4" galvanized iron pipe was considered. However, the smallest allowable pipe size, which will provide adequate fire protection in accordance with Department of Water Supply standards, is a 6-inch pipeline. Although a 6-inch pipeline installation will cost more than the 4-inch pipeline, the Department will proceed with the 6-inch pipeline installation. The Department believes that upgrading to provide for adequate fire flow for the area residents overrides the construction cost differential. There should be no significant difference in short and long-term environmental impacts on the physical environment (as described in this assessment) between installing a 4-inch or 6-inch pipeline.

**PERMITS AND APPROVALS**

Permits and approvals listed below are indicative of rather than a comprehensive listing of all permits that may be required to construct the project.

<u>Permit</u>	<u>Authority</u>
County of Hawaii Grubbing, Grading, Excavation and Stockpiling Best Management Practices	Department of Public Works Department of Public Works
State of Hawaii Variance from Pollution Controls National Pollution Discharge Elimination System (NPDES) Permit	Department of Health Department of Health

## AGENCIES AND ORGANIZATIONS TO BE CONSULTED

6

The Draft Environmental Assessment for the Happy Homes Subdivision Pipeline Replacement DWS Job No. 99-733 was published in the Office of Environmental Quality Control Environmental Notice of October 8, 2000 and October 23, 2000. Publication in the Environmental Notice initiated a 30-day public review period which ended on November 8, 2000. The Draft Environmental Assessment was mailed to agencies and organizations listed below. An asterisk \* identifies agencies and organizations that submitted written comments during the review period. All comment letters and responses are found in Appendix B.

### Federal

- \*US Army Corps of Engineers
- \*US Department of Agriculture

### State

- Department of Agriculture
- \*Department of Health
- \*Office of Environmental Quality Control

### County

- \*Corporation Counsel
- \*Department of Public Works
- Planning Department
- \*Police Department
- Fire Department

### Others

- Hawaii Electric Light Company
- GTE Hawaiian Tel
- Happy Homes Subdivision Community Association
- Mountain View Public Library (Draft EA Placed in Library)

## DETERMINATION OF SIGNIFICANCE

7

Chapter 200 (Environmental Impact Statement Rules) of Title 11, Administrative Rules of the State Department of Health, establishes criteria for determining whether an action may have significant effects on the environment (§11-200-12). 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;**

There are no natural or cultural resources within the existing road rights-of-way and easements to be affected by the project. According to the State Historic Preservation Division, "the proposed project will have "no effect" on significant historic properties."

- 2) **Curtails the range of beneficial uses of the environment;**

The underground pipeline will not curtail the beneficial uses of the environment.

- 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 will not conflict with long-term environmental policies, goals, and guidelines of the State of Hawaii.

- 4) **Substantially affects the economic or social welfare of the community or State;**

The project will not substantially affect the economic or social welfare of the community or State.

- 5) **Substantially affects public health;**

The proposed action will not adversely affect public health. On occasion, construction noise will exceed the allowable noise standard established by Hawaii Administrative Rules. Construction noise, however, will be temporary at any one location and will not endanger public health.

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

The project will not result in substantial secondary impacts. The project is intended to better serve customers connected to the existing water system. As a single action, the project will not foster population changes or adverse impacts on public facilities.

- 7) **Involves a substantial degradation of environmental quality;**

Environmental quality will not be degraded as a result of this project. Construction will be confined to existing improved road rights-of-way and easements.

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

The proposed project does not involve a commitment for a larger action. The Department of Water Supply, however, is planning similar replacement projects to upgrade the Olaa-Mountain View Waster System. Planning and the timing of construction of future improvements will depend on availability of public funds and Department of Water Supply Capital Improvement Project priorities.

- 9) **Substantially affects a rare, threatened or endangered species, or its habitat;**

There are no rare, threatened or endangered flora or fauna or habitat in the project area. The Fish and Wildlife Service reported "To the best of our knowledge, no federally endangered, threatened, or candidate species, ... occur at the immediate project site. The federally endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) may occur in the vicinity of the proposed project site. Because project-related construction will occur in a previously disturbed area and will not involve vegetation clearing near potential roosting sites, no adverse effect to this species is anticipated"

- 10) **Detrimentially affects air or water quality or ambient noise levels; or**

Ambient air quality may be affected by fugitive dust and combustion emissions but can be controlled by measures stipulated in this Assessment. Construction noise will be pronounced during site work but should diminish as the pipeline is placed underground. Because construction will be route specific, construction related impacts will be temporary at any location along the pipeline alignment. All construction activities will comply with air quality and noise pollution regulations of the State Department of Health. Best Management Plans will be prepared to minimize construction runoff.

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

The proposed action is not located in a flood hazard area, tsunami zone, beach, erosion prone area, or adjacent to fresh and coastal water bodies. The Fish and Wildlife Service reported that no "significant wetlands, or other Federal trust resources occur at the immediate project site."

The Happy Homes Subdivision, surrounding subdivisions, and Kurtistown are located in an area subject to lava inundation.

- 12) **Substantially affects scenic vistas and viewplanes identified in county or state plans or studies; or**

The proposed improvements will not affect scenic vistas and view planes. Once installed, the underground pipeline will not be visible.

- 13) **Requires substantial energy consumption.**

Water will be distributed by gravity flow from the existing Kurtistown Reservoir No. 2 located along Huina Road above the Happy Homes Subdivision. No pumping stations are planned as part

of the proposed action thus there should be no increase in metered electricity over existing conditions.

Based on the above criteria, the proposed Happy Homes Subdivision Pipeline Replacement will not result in significant adverse environmental impacts and an Environmental Impact Statement should not be required.

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**APPENDIX A**

**PRE-ASSESSMENT CONSULTATION LETTERS**

BENJAMIN J. CAYETANO  
GOVERNOR OF HAWAII



STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION  
Kakuhikewa Building, Room 555  
601 Kamohāiwa Boulevard  
Kapolei, Hawaii 98707

TIMOTHY E. JOHNS, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES  
JANET E. KAWELO

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
CONSERVATION AND RESOURCES  
ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
LAND  
STATE PARKS  
WATER RESOURCE MANAGEMENT

July 13, 2000

Mr. Gerald Park  
1400 Rycroft Avenue, Suite 876  
Honolulu, Hawaii 96814-3021

RECEIVED  
7.13.00

LOG NO: 25792 ✓  
DOC NO: 0007PM14

Dear Mr. Park:

**SUBJECT: Scoping for Happy Homes Subdivision Pipeline Replacement Project  
Keaau, Puna, Hawaii Island**

Thank you for your letter of June 30, 2000 and the opportunity to review and comment on the subject application.

The County of Hawaii Department of Water Supply proposes to replace an aged and deteriorating water line in the Happy Homes Subdivision, which was developed in the mid 1950s. We have no record of historic sites in this subdivision, located above Kurtistown. It is highly unlikely that any historic sites would be found if the project is limited to the replacement of an old pipe in the original trenches.

We believe that the proposed project will have "no effect" on significant historic properties. If historic remains of any kind, including burials, are found work should stop immediately and our office notified of the findings.

If you or your staff should have any questions please contact Patrick McCoy (692-8029)

Aloha,

  
DON HIBBARD, Administrator  
State Historic Preservation Division

PM:dnm



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Pacific Islands Ecoregion  
300 Ala Moana Boulevard, Room 3-122  
Box 50088  
Honolulu, Hawaii 96850

RECEIVED  
7.28.00

JUL 27 2000

In Reply Refer To: JAK

Mr. Gerald Park  
Gerald Park Urban Planner  
1400 Rycroft Street  
Suite 876  
Honolulu, Hawaii 96814-3021

Re: Species List for Happy Homes Subdivision Pipeline Replacement Project, Keaau, Puna District, Hawaii

Dear Mr. Park:

This responds to your request for information on threatened and endangered species, critical habitat, and wetlands in the area of the proposed Happy Homes Subdivision Pipeline Replacement Project, Keaau, Puna District, Hawaii. The project sponsor is the Hawaii County Department of Water Supply with funding provided by the U.S. Department of Agriculture. This letter has been prepared under the authority of and in accordance with provisions of the Fish and Wildlife Coordination Act of 1934 [16 USC 661 *et seq.*; 48 Stat. 401], as amended, the Endangered Species Act of 1973 [16 USC 1531 *et seq.*; 87 Stat. 884], as amended, and the National Environmental Policy Act of 1969 [42 USC 4321 *et seq.*; 83 Stat. 852], as amended. Based on these authorities, the Service offers the following comments for your consideration.

The proposed project will involve installation of approximately 10,000 feet of galvanized iron water line, fire hydrants, and replacement of existing water meters. Pipeline installation will require soil excavation, hauling of excavated material to a stockpile site, and backfilling to pre-existing conditions.

We have reviewed the information provided and in our files. To the best of our knowledge, no federally endangered, threatened, or candidate species, significant wetlands, or other Federal trust resources occur at the immediate project site. The federally endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) may occur in the vicinity of the proposed project site. Because project-related construction will occur in a previously disturbed area and will not involve vegetation clearing near potential roosting sites, no adverse effect to this species is anticipated.

We appreciate your concern for threatened and endangered species, wetlands, and other Federal trust resources. If you have questions regarding these comments, please contact Fish and Wildlife Biologist James Kwon by telephone at 808/541-3441 or by facsimile transmission at 808/541-3470.

Sincerely,

A handwritten signature in cursive script that reads "Paul Henson".

Paul Henson  
Field Supervisor  
Ecological Services

cc: USDA, Rural Development



United States  
Department of  
Agriculture

Natural  
Resources  
Conservation  
Service

P.O. Box 50004  
Honolulu, HI  
96850

*Our People...Our Islands...In Harmony*

August 10, 2000

RECEIVED  
8.12.00

Mr. Gerald Park, Urban Planner  
1400 Rycroft Street, Suite 876  
Honolulu, Hawaii 96814-3021

Dear Mr. Park:

Subject: Scoping for Happy Homes Subdivision Pipeline Replacement Project,  
Keaau, Puna District, Hawaii

Please find enclosed a map showing the soil map unit "OaC" which is designated as  
"Prime Farmland." Please let us know if we can be of further assistance.

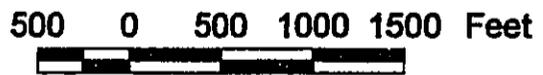
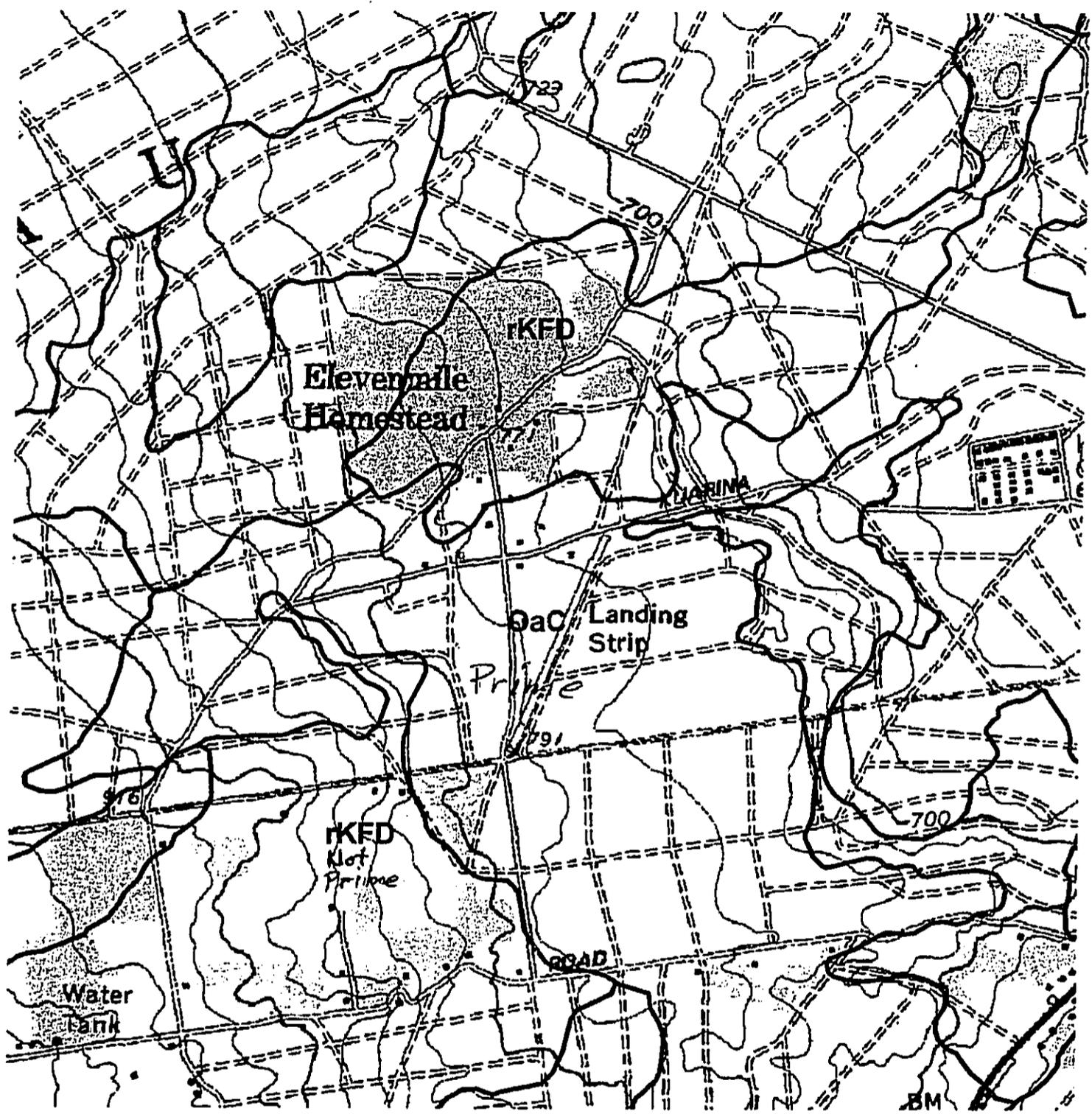
Sincerely,

  
KENNETH M. KANESHIRO  
State Conservationist

Enclosure - 1

The Natural Resources Conservation Service works hand-in-hand with  
the American people to conserve natural resources on private lands.

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**OaC** All areas are prime farmland, and potentially highly erodible

**rKFD** Not prime farmland, and potentially highly erodible

**APPENDIX B**  
**COMMENT LETTERS AND RESPONSES**

Stephen K. Yamashiro  
Mayor



County of Hawaii

OFFICE OF THE CORPORATION COUNSEL  
101 Aupuni Street, Suite 213 • Hahaione, Hawaii 96720-1122 • (808) 941-6231 • Fax: (808) 941-6022

Richard Wurdeman  
Corporation Counsel

October 4, 2000

RECEIVED  
10.5.00

Gerald Park, Urban Planner  
1400 Rycroft Street, Suite 876  
Honolulu, Hawaii 96814-3021

Dear Mr. Park:

RE: Environmental Assessment, Happy Homes Subdivision Pipeline Replacement, TMK: 1-7-17:14, 15, 18.

We have reviewed the referenced Environmental Assessment and have no comments. As you note, this simply involves the replacement of existing pipelines in an existing roadway in developed agricultural and residential areas.

Please contact the undersigned if you have further questions. Thank you.

Sincerely,

RICHARD D. WURDEMAN  
Corporation Counsel

By   
Ivan M. Forjoo  
Deputy Corporation Counsel

IMT:ch  
cc: Owen Nishioka, Dept. of Water Supply  
water3.a@GeraldPark.ltr

Wayne G. Carvalho  
Police Chief  
James S. Correa  
Deputy Police Chief



County of Hawaii  
POLICE DEPARTMENT

343 Kapiolani Street • Hahaione, Hawaii 96720-3998  
(808) 935-3311 • Fax (808) 961-2702

Stephen K. Yamashiro  
Mayor

October 9, 2000

Mr. Gerald Park  
Gerald Park, Urban Planner  
1400 Rycroft Street, Suite 876  
Honolulu, HI 96814-3021

Dear Mr. Park:

SUBJECT: HAPPY HOMES SUBDIVISION PIPELINE REPLACEMENT  
TMK: 1-7-17: 14, 15, 18  
KEAAU, PUNA DISTRICT, HAWAII

The applicant appears to have addressed all traffic safety concerns associated with this project.

Thank you for the opportunity to review and comment.

Sincerely,

WAYNE G. CARVALHO  
POLICE CHIEF

  
THOMAS J. HICKCOX  
ASSISTANT POLICE CHIEF  
FIELD OPERATIONS BUREAU

EO:lk

RECEIVED  
10.11.00

BENJAMIN J. CAYetano  
Director



STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

230 SOUTH BERETANIA STREET  
SUITE 702  
HONOLULU, HAWAII 96813  
TELEPHONE (808) 586-4185  
FACSIMILE (808) 586-4188

GENEVIEVE SALMONSON  
DIRECTOR



October 11, 2000

Mr. Milton D. Pavao, Manager  
Hawaii County Department of Water Supply  
25 Aupuni Street  
Hilo, Hawaii 96720

Dear Mr. Pavao:

Subject: Draft Environmental Assessment for the Happy Homes  
Subdivision Pipeline Replacement, Hawaii

Thank you for the opportunity to review the subject document. We  
have the following comments.

1. This project will replace 2, 3 and 4-inch water pipelines with  
6 and 8-inch lines. After these improvements are in place,  
please describe how many new connections are anticipated. Of  
the new connections, please describe how many of them would  
support new development.
2. If new development would be enabled by the bigger water pipes,  
please describe the associated secondary impacts on other  
inadequate or non-existent infrastructure systems in the  
neighborhood such as roads, drainage and sewer systems.

Should you have any questions, please call Jeyan Thirugnanam at  
586-4185.

Sincerely,

*Genevieve Salmonson*  
Genevieve Salmonson  
Director

c: Gerald Park



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII  
25 AUPUNI STREET • HILO, HAWAII 96720  
TELEPHONE (808) 981-8880 • FAX (808) 981-8657

October 20, 2000

Ms. Genevieve Salmonson, Director  
State of Hawaii  
Office of Environmental Quality Control  
235 South Beretania Street, Suite 702  
Honolulu, HI 96813

**DRAFT ENVIRONMENTAL ASSESSMENT  
HAPPY HOMES SUBDIVISION PIPELINE REPLACEMENT**

Following are responses to items contained in your October 11, 2000 letter:

1. Based on our prevailing water availability conditions, there is a moratorium for any service in the  
Happy Homes Subdivision. However, upon the completion of this replacement project, a 5/8-inch  
meter will, bearing any unforeseen circumstances, be available for each existing lot of record.  
With this premise, approximately 30-40 parcels would be eligible for a meter. Further, with a 5/8-  
inch meter sufficient only to a single dwelling at 600 gallons per day (gpd), this would tend to limit  
development to only single family dwellings on existing parcels and would not tend itself to  
additional subdivisions.
2. Granted the availability of these meters would enable owners of existing parcels to construct single  
family dwellings, their secondary impact on the inadequate or non-existent infrastructure would be  
minor. These infrastructural concerns could be mitigated by the capital improvements program  
administered by the County Department of Public Works.

If you have any questions, please contact our Water Resources and Planning Branch at 961-8665.

Sincerely yours,

*Milton D. Pavao*

Milton D. Pavao, P.E.  
Manager

GGA:gms

copy - Mr. Bruce Kawamura, BK, Inc. ✓

... Water brings progress...



DEPARTMENT OF THE ARMY  
U. S. ARMY ENGINEER DISTRICT, HONOLULU  
FT. SHAFTER, HAWAII 96828-6440

PLEASE TO  
ATTENTION OF

October 11, 2000

RECEIVED  
10/16/00

Civil Works Technical Branch

Mr. Gerald Park, Urban Planner  
1400 Rycroft Street, Suite 876  
Honolulu, Hawaii 96814

Dear Mr. Park:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment (DEA) for the Happy Homes Subdivision Pipeline Replacement Project, Keaau, Hawaii (TMK 1-7-17: 14, 15 and 18). The following comments are provided in accordance with Corps of Engineers authorities to provide flood hazard information and to issue Department of the Army (DA) permits.

a. Based on the information provided, a DA permit is not required at this time. Should any future activities be planned which may affect jurisdictional waters of the U.S., consultation should take place with our Regulatory Branch. For further information, please contact Mr. Farley Watanabe at (808) 438-7701 and refer to file number 2001G0007.

b. The flood hazard information provided on page 6 of the DEA is correct.

Should you require additional information, please contact Ms. Jessie Dobinchick of my staff at (808) 438-8876.

Sincerely,

*Lincoln Gayagas*  
Lincoln Gayagas  
Acting Chief, Civil Works  
Technical Branch

United States  
Department of  
Agriculture  
Natural  
Resources  
Conservation  
Service

P.O. Box 50004  
Honolulu, HI  
96850

Our People...Our Islands...In Harmony

October 25, 2000

RECEIVED  
10/25/00

Mr. Gerald Park  
Urban Planner  
1400 Rycroft Street, Suite 876  
Honolulu, Hawaii 96814-3021

Dear Mr. Park:

Subject: Environmental Assessment (EA) - Happy Homes Subdivision Pipeline Replacement, Keaau, Puna District, Hawaii

We have reviewed the above mentioned document and have no comments to offer at this time.

Thank you for the opportunity to review this document.

Sincerely,

*Kenneth M. Kameshiro*  
KENNETH M. KAMESHIRO  
State Conservationist

The Natural Resources Conservation Service works hand-in-hand with the American people to conserve natural resources on private lands. AN EQUAL OPPORTUNITY EMPLOYER



STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P.O. BOX 3378  
HONOLULU, HAWAII 96801

November 3, 2000

BRUCE S. ANDERSON, Ph.D., M.P.H.  
DIRECTOR OF HEALTH

By mail, please refer to:  
File #

00-202/epc



Mr. Gerald Park  
Urban Planner  
Planning Land Use Research  
Environmental Studies  
1400 Rycroft Street, Suite 876  
Honolulu, Hawaii 96814-3021

Dear Mr. Park:

Subject: Draft Environmental Assessment  
Happy Homes Subdivision Pipeline Replacement  
Keeau, Puna, Hawaii  
TMK: 1-7-17:14, 15, 18

Thank you for allowing us to review and comment on the subject project. We do not have any comments to offer at this time.

Sincerely,

GARY GILL  
Deputy Director  
Environmental Health Administration

Stephen K. Yamashiro  
Mayor



County of Hawaii  
DEPARTMENT OF PUBLIC WORKS  
75 Arapaho Street, Room 202 - 11th, Honolulu 96728-4252  
(808) 941-5111 • Fax (808) 941-5409

November 6, 2000

Mr. Gerald Park  
1400 Rycroft Street, Suite 876  
Honolulu, Hawaii 96814-3021

SUBJECT: ENVIRONMENTAL ASSESSMENT  
Happy Homes Subdivision Pipeline Replacement  
Location: Keeau, Puna, Hawaii  
TMK: 1-7-14, 15, 17, & 18

We have reviewed the subject application forwarded by your letter dated September 28, 2000 and have the following comments.

1. Any earthwork activity, including grading and grubbing, shall conform to Chapter 10 - Erosion and Sedimentation Control, of the Hawaii County Code.
2. A permit shall be obtained from the Department of Public Works, as required under Chapter 22, Article 3, Section 22-44 of the Hawaii County Code, for work within the County right-of-way.

Should you have any questions or concerns, please contact Mr. Kelly Gomes of our Engineering Division at (808) 961-8327.

for GALEN M. KUBA, Division Chief  
Engineering Division

KG

c: DWS (Owen Nishioka)

