June 16, 2003

FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR HOOKENA STANDPIPE REPLACEMENT PORTION OF KAUHAKO-KALAHIKI, DISTRICT OF SOUTH KONA, HAWAII

We have reviewed the comments received during the 30-day public comment period that began on April 23, 2003. We have determined that his project will not have significant environmental effects and have issued a Finding of No Significant Impact. Please publish this notice in the next edition of the Environmental Notice.

A completed OEQC Publication Form and four copies of the Final EA are enclosed. Please call Mr. Owen Nishioka of my staff at (808) 961-8070, extension 259, if you have any questions.

Sincerely yours,

[Signature]

Milton D. Pavao, P.E.
Manager

ON:pt
Enc.

... Water brings progress...
2003-07-06-HA-FEA

FINAL ENVIRONMENTAL ASSESSMENT

HOOKENA STANDPIPE REPLACEMENT
DWS JOB No. 2001-782
Portion of Kauhako-Kalahiki, District of South Kona, Hawaii

Prepared for:
Department of Water Supply
County of Hawaii
345 Kekuanoa Street, Suite 20
Hilo, Hawaii 96720

June 2003
FINAL ENVIRONMENTAL ASSESSMENT

HOOKENA STANDPIPE REPLACEMENT
DWS JOB No. 2001-782
Portion of Kauhako-Kalahiki, District of South Kona, 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
345 Kekuanaoa Street, Suite 20
Hilo, Hawaii 96720

Prepared by:

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

and

BK Inc.
675 Kinole Street
Hilo, Hawaii 96720

June 2003
SUMMARY INFORMATION

Project: Hookena Standpipe Replacement
Applicant: Department of Water Supply
           County of Hawaii
           345 Kekuanaoa Street, Suite 20
           Hilo, Hawaii 96720

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

Tax Map Key: 8-6-009: 011
Land Area: 0.952 acre
Land Owner: County of Hawaii
Existing Use: Vacant lot
State Land Use Designation: Agricultural
General Plan: Extensive Agriculture
Zoning: A-5a
Special Management Area: Outside SMA

Need for Assessment: Use of County Land and Funds
                    HAR §11-200-6-(2)(b)(1)(A)
                    HAR §11-200-6-(2)(b)(2)(B)

Anticipated Determination: Finding of No Significant Impact

Contact Person: Owen Nishioka
                Department Water Supply
                County of Hawaii
                345 Kekuanaoa Street, Suite 20
                Hilo, Hawaii 96720

                Telephone: (808) 961-8665

Note: Revisions to the text of the Draft Environmental Assessment
      appear in bold italic type. Deleted text is shaded.
# TABLE OF CONTENTS

Summary Information i
Table of Contents ii/iii
List of Figures and Images iv

## SECTION 1
**DESCRIPTION OF THE PROPOSED ACTION**

A. Purpose of the Project 1
B. Technical Characteristics 1
C. Economic Characteristics 2
   1. Cost and Phasing 2
   2. Land Ownership 2
D. Social Characteristics 2

## SECTION 2
**DESCRIPTION OF THE AFFECTED ENVIRONMENT**

A. Existing Conditions 7
B. Climate 7
C. Topography 9
D. Soils 9
E. Drainage 9
F. Natural Hazards 12
G. Surface Water 12
H. Historic Resources 14
I. Cultural Resources 14
J. Flora 14
K. Land Use Controls 14
L. Public Facilities 16

## SECTION 3
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MEASURES TO MITIGATE ADVERSE EFFECTS**

A. Assessment Process 17
B. Short-term Impacts 19
C. Long-term Impact 19

## SECTION 4
**ALTERNATIVES TO THE PROPOSED ACTION**

A. No Action 20
B. Alternative Pipeline Size 20

## SECTION 5
**LIST OF PERMITS AND APPROVALS**

21

## SECTION 6
**AGENCIES AND ORGANIZATIONS TO BE CONSULTED**

22

## SECTION 7
**DETERMINATION OF SIGNIFICANCE**

23
LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Location Map</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Tax Map Key</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Site Plan</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Sections and Meter Box Plan</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Detailed Land Classification</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>ALISH</td>
<td>11</td>
</tr>
<tr>
<td>7</td>
<td>Archaeological Site Map</td>
<td>13</td>
</tr>
<tr>
<td>8</td>
<td>State Land Use District</td>
<td>15</td>
</tr>
</tbody>
</table>

IMAGES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Southwest View of Site From Mamalahoa Highway</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>View of Middle of Site From Mamalahoa Highway</td>
<td>8</td>
</tr>
</tbody>
</table>
DESCRIPTION OF THE PROPOSED PROJECT

The Department of Water Supply, County of Hawaii, proposes to replace its existing Hookena standpipe with a new standpipe at a new location in Hookena. The new standpipe would be located on a 0.952-acre lot immediately to the south of Hookena Elementary School, ahupua'a of Kauhako, District of South Kona, County, Island, and State of Hawaii. The property is identified as TMK: 8-6-009: 011 and is owned by the County of Hawaii. A Location Map and Tax Map are shown in Figures 1 and 2.

A. Purpose of the Project

The purpose of the project is to develop a site for a new Department of Water Supply standpipe. The owner of the lot on which the existing Hookena standpipe is located desires to convert the standpipe site to another use and has requested the Department of Water Supply to vacate the premises.

The Department of Water Supply proposes to expand the number of water dispensing stations (from one to two) and hose bibs (from two to three) for water haulers and residents, respectively over the existing standpipe site.

B. Technical Characteristics

An area of approximately 9,315 square feet is proposed for the facility. The standpipe would be located on the upper half (eastern side) of the property adjacent to Mamalahoa Highway. At this location the standpipe site would be visible and readily accessible from the roadway and would avoid disturbing archaeological features found in the lower half of the property (western side). The site will be filled to about 14-feet above existing elevation (measured on the low side) to create a level surface. The area to be filled is estimated at 0.52 acres. The quantity of fill is estimated at 1,300 cubic yards.

A one-way circulation plan is proposed. Vehicles would enter the site from Mamalahoa Highway via a paved driveway on the north side of the property and exit from a paved driveway on the south. Both driveways are 16-feet wide. The entry driveway is sloped at 8% and the exit driveway at 4%. The difference in grade will make it easier for drivers to negotiate the slope with an empty (when entering) and a full load (when exiting).

Two loading stations are proposed each with one standpipe (12 feet high with a 6-foot extension) for top loading trucks. Water will be dispensed through a 2" standpipe. A 4" galvanized iron pipe 15 feet in height would support each standpipe. The standpipe would be equipped with a cut-off valve.

Each loading station will be equipped with 8 separate water meters (for a total of 16 meters). One water meter will be assigned to each commercial hauler. Currently, there are 6 to 8 commercial water haulers serving the South Kona District. Drawn water will be metered and the hauler charged accordingly.

For homeowners, water can be drawn from three hose bibs to be located in the southwest corner of the facility. The three hose bibs would be serviced from a 1" water meter. There is no water charge for homeowners.
Water for the standpipe facility will be drawn through a 4" service lateral from an existing 8" transmission line in Mamalahoa Highway. Inside the facility, 4" service piping would feet the water outlets.

An 8' diameter by 8' deep modified drywell will collect water overflow and on-site runoff. The pavement will be sloped in the direction of the drywell that would be located on the south side near the exit driveway.

A 6-foot high chain link fence will enclose the site on three sides; a 6-foot rolling gate will secure both driveways on Mamalahoa Highway. Security lighting will be provided.

C. Economic Characteristics

1. Cost and Phasing

The construction cost of the project is estimated at $.311 million and would be funded by the Department of Water Supply and the Office of the Mayor.

The project will be constructed in one phase over a six-month period. Construction will commence after all approvals are received.

2. Land Ownership

The County of Hawaii owns the property on which the project is proposed. The property is often referred to and identified as the 'Hokema Courthouse Lot.'

D. Social Characteristics

No residence or business establishment will be displaced because of the project.
Figure 2
Tax Map Key
Hookena Stand Pipe

Source: Department of Taxation, Tax Map Bureau
MATERIAL SCHEDULE

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2&quot; Brass Ball Valve, Screwed</td>
</tr>
<tr>
<td>2</td>
<td>2&quot; Squeeze 2 Hole Flange &amp; MPT</td>
</tr>
<tr>
<td>3</td>
<td>2&quot; Loc-Pac Coupling</td>
</tr>
<tr>
<td>4</td>
<td>2&quot; Adapter Coupled MPT</td>
</tr>
<tr>
<td>5</td>
<td>2-1/2&quot;x2-1/2&quot;x2&quot; C.U. Tee</td>
</tr>
<tr>
<td>6</td>
<td>2-1/2&quot; C.U. Cap</td>
</tr>
<tr>
<td>7</td>
<td>2&quot; C.U. Cap</td>
</tr>
<tr>
<td>8</td>
<td>2&quot;x2&quot;x2&quot; C.U. Tee</td>
</tr>
<tr>
<td>9</td>
<td>2&quot; C.U. Street Elbow</td>
</tr>
<tr>
<td>10</td>
<td>2&quot; Adapter, C.U. to FPT</td>
</tr>
<tr>
<td>11</td>
<td>2&quot; C.U. Elbow</td>
</tr>
</tbody>
</table>

Necessary 2" Clamps & Nipples and 2-1/2" Copper Pipes.

DEPARTMENT OF WATER SUPPLY
COUNTY OF HAWAII

PROJECT:
CONSTRUCTION OF THE HOOKEA STANDPIPE RELOCATION
METER BOXES (4)
STANDPIPE

JOB NO. 2001-782

The work as proposed to be done is shown in the plans and specifications of the project attached hereto. The work is to be done in accordance therewith.

5 SETS

5 SHEETS
DESCRIPTION OF THE AFFECTED ENVIRONMENT

A. Existing Conditions

The Department of Water Supply, County of Hawaii divides the island of Hawaii into five Hydrographic Areas. The Districts of North and South Kona and part of the Ka'u District comprise Hydrographic Area IV. (Department of Water Supply, 1980). The Kona system can be separated into the North Kona and South Kona Systems with the division between systems corresponding generally to the judicial district boundaries.

The South Kona Water System services the District of South Kona. Water for the system is supplied by three wells at Keal. The system is divided into upper and lower service areas. The upper service area is located along Mamalahoa Highway where most of the South Kona population resides. Water is pumped from the Keal Wells to the upper service area where it gravity flows to the south to the Hookena Beach Road junction (Ibid). The lower service area is comprised mostly of the Honaunau Bay and City of Refuge areas.

The existing Hookena Standpipe site marks the end of the county water system. Water users to the south of the standpipe site rely on water catchment systems for water. When their supply is low they can either contract water haulers for water or draw water at the standpipe site.

Department of Water Supply records indicate that there are four accounts (i.e. metered water) at the standpipe site. Three accounts are for water haulers and one account is for Civil Defense. The Civil Defense account dispenses potable water through hose bibs for people collecting their own water. In 2002, water dispensed through the Civil Defense account ranged from an average low of 1,480 gallons per day to a high of 2,660 gallons per day.

The proposed Hookena Standpipe site is located about 800 lineal feet to the south of Hookena School on the makai side of Mamalahoa Highway. The rectangular shaped parcel is 175 feet wide and 236 feet deep. The parcel is thickly vegetated. Grubbed plant material heaped on the roadside forms an obstacle that makes access into the parcel difficult (See Images 1 and 2).

Single-family residences adjoin the subject property to the south and across Mamalahoa Highway to the east. The residences appear to be inhabited and in sound structural condition.

B. Climate

Rainfall in the project area averages 50 inches per year measured between the coastline and Mamalahoa Highway (Department of Water Supply, 1999). Above Mamalahoa Highway (approximate elevation 1,000 feet) rainfall increases to as much as 80 inches per year at the 6,000 foot elevation then declines to less than 20 inches near the summit of Mauna Loa. The distribution of rainfall is unique as typically summer months are wet and winter months are dry. This pattern is contrary to rainfall distribution in other parts of the State (Soil Conservation Service, 1977).
Image 1. Southwest View of Site From Mamalahoa Highway.

Image 2. View of Middle of Site From Mamalahoa Highway.
The weather is generally warm and sunny with annual temperatures ranging between 70-76°F. The wind pattern for North and South Kona is influenced by the land masses of Mauna Kea, Hualalai, and Mauna Loa and land-water temperature differentials along the coast. The end result is that during the daytime (when the ocean warms) winds move onshore and during nights (when the land cools) winds generally move offshore.

C. Topography

The property is situated between the 876-foot to 880-foot elevation measured at Mamalahoa Highway. From the highway the property falls to a low elevation of 844 feet along the west property line. Based on high and low spot elevations, the lot slopes 14% along an east to west gradient.

D. Soils

The Soil Conservation Service (1973) maps a single soil type—Punaluu extremely rocky peat, 6 to 20 percent slopes (rPYD)—over the property. The surface soil is a black peat about 4 inches thick underlain by pahoehoe lava. Rock outcrops cover 40-50% of the surface. The Service describes the soil thusly: "the peat is rapidly permeable and the pahoehoe lava is slowly permeable. Runoff is slow and the erosion hazard is slight."

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.

Land type at the Hookena Stand Pipe site is classified E262 (See Figure 5). 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. Land bearing the "E" rating is "very poorly suited" for agricultural uses.

The State Department of Agriculture has prepared Agricultural Lands of Importance to the State of Hawaii (ALISH) maps to determine the agricultural importance of agricultural property within the State of Hawaii. The ALISH maps identify and rate three agricultural land types: Prime, Unique, and Other Important Agricultural Lands.

The subject property is not designated Prime, Unique, or Other Important Agricultural Land (See Figure 6).

E. Drainage

No drainage structures were observed during our field inspection and the County has no plans on file for drainage improvements in this area.

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
Figure 6
Agricultural Lands of Importance to the State of Hawaii

Hookena Stand Pipe

Legend
- Prime Agricultural Land
- Unique Agricultural Land
- Other Important Agricultural Land

"X" is defined as "areas determined to be outside the 500 year flood plain (FEMA, 1988)."

In 1977, the Soil Conservation Service released "The South Kona Flood Hazard Analyses" a document providing basic technical data concerning the flooding problems and possible solutions for the South Kona District. Twenty-five watercourses were identified that have caused floodwater damages in the past. One of those watercourses, identified as Watercourse No. 23 drains to the west of Hookena School (approximately 700-800 feet away). The watercourse begins at about the 1,200 foot elevation and flows makai under Mamalahoa Highway where it joins another watercourse (No. 21) below the highway at about elevation 375 feet. From this confluence, the watercourse drains to the ocean.

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 South Kona is placed in Zone 2 in which the probability of coverage by lava flows is high. The South Kona District is susceptible to lava hazards from Mauna Loa and the southwest rift zone of Mauna Loa. Geographically, the southwest rift zone is in the Ke'au District. "Between 1868 and 1950, lava flows from the southwest rift zone reached the ocean during five eruptions (ibid)."

G. Surface Water

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

H. Historical Features

Cultural Surveys Hawaii was retained to prepare an archaeological survey of the property for this environmental assessment. During their literature search, it was discovered that the site was previously surveyed for a proposed expansion of Hookena School (Archaeological Consultants of Hawaii, Inc., 1992). The location of the subject property corresponds to a portion of the ACHI study area identified as the "south parcel."

ACHI identified four features on the south parcel: an enclosure, outhouse, concrete slab and terrace. These features were subsequently assigned to State Site 50-10-47-19738 which ACHI referred to as the "Courthouse Grounds". A field check by Cultural Surveys Hawaii confirmed the presence of the features located by ACHI to be on the subject property (See Figure 7).

Archaeologists at the State Historic Preservation Division were consulted as to the current status of the four features. In correspondence dated January 5, 1995, the SHPD noted "We find the descriptions to be sufficient for significance evaluation with the understanding that the 2 caves in the north parcel (Hookena School) are not yet fully inventoried. We agree with the significance evaluations. Four of the sites are no longer significant because they were significant for their information content and adequate amounts of information were documented in his survey. The three caves are still significant for information content and traditional cultural significance (burials)."

One of the three caves is located makai of the project site and will not be disturbed by the proposed activities.
Note: Prefix For State Sites is 50-10-47

- CSH Site Locations
- Kennedy Site Locations
( ) - Height in cm

MAP SHOWING
TOPOGRAPHIC SURVEY OF THE PROPOSED
NEW HOOKENA STANDPIPE SITE

SITUATED AT THE WEST SIDE OF HAWAII BELT ROAD (F.A.R. 8C)
AT KAUAHO, SOUTH KONA, HAWAII
THBG. (S) B-6-141; GU

Figure 7
Archaeological Site Map
Hookena Stand Pipe
County of Hawaii
Kaunake, District of South Kona, Hawaii
December 2011
I. Cultural Resources

No cultural resources are known to be present on the ground surface of the Hookena Courthouse Lot. Some cultural resources, however, are known to be present in locations makai of the subject property and in a lava tube complex that passes beneath the subject property. There are cave openings both mauka and makai of the subject property that access the lava tube complex. Archaeological Consultants of Hawaii investigated the caves and the lava tubes in 1995 and a description and discussion of their findings is presented in "An Archaeological Inventory Survey With Limited Subsurface Testing on Property for the Proposed Expansion of Hookena School (Buffer Zone)".

I J. Flora

A handful of species contributes to the thick vegetative cover on the property. Java plum (Syzygium cumini), Christmas berry (Schinus terebinthifolius), mango (Mangifera indica), monkeypod (Samanea saman), breadfruit (Artocarpus communis), eucalyptus (Grevilea robusta), and avocado (Persea Americana). The understory is predominantly wild coffee (Coffea arabica) and common ginger.

The Halakulu Forest National Wildlife Refuge was set aside in 1985 to protect and manage endangered forest birds. The Forest Reserve is located on the windward slope of Mauna Kea but includes a Kona Forest Unit on the leeward slope of Mauna Loa. The 5,300 acre Kona Forest Unit is located at about the 2,000 foot elevation and extends up to the 6,000 foot elevation. The Unit is located above Hookena about 1½ mile above the site of the proposed stand pipe and Hookena School.

J K. Land Use Controls

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

- State Land Use Designation: Agricultural
- County of Hawaii General Plan: Extensive Agriculture
- Zoning: Agriculture (A-5a)
- Special Management Area: Outside Special Management Area

The proposed standpipe facility is not an expressly permitted use in the State Agricultural District. The Department of Water Supply, however, after consulting with the staff of the State Land Use Commission and County of Hawaii Planning Department, considers the standpipe to be a public utility line. Public utility lines are a permissible use in the State Agricultural District (§205-4.5(a)). Similarly, public uses and structures that are necessary for agricultural practices are permitted by County of Hawaii agricultural zoning (§25-5-72(a)(17)). In lieu of data to substantiate use patterns (the Department of Water Supply does not monitor water use) it is reasonable to assume that water drawn from the standpipe site is used for both domestic purposes and agricultural activities.
KL. Public Facilities

Mamalahoa Highway, a State road, borders the property on the west. This two-way, two-lane, all weather surface road lies within a 50-foot right-of-way. No speed limit sign was posted in the area but a 25 miles per hour speed limit is presumed (or 20 miles per hour immediately before and after school) because of Hookena Elementary School being located on the highway.

A Department of Water Supply 8-inch transmission main is located within the Mamalahoa Highway right-of-way. An active fire hydrant fronts the project site.

There are no municipal sewer or drainage systems at this location.

Overhead power and communication systems are supported on utility poles posted on the mauka side of Mamalahoa Highway.
SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS
AND MEASURES TO MITIGATE ADVERSE EFFECTS

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 site conditions
and environmental features along Mamalahoa Highway. The sum total of consultations
and field investigations helped to identify existing conditions and features that could
affect or be affected by the project.

- The project site is approximately 800 lineal feet to the south of Hookena Elementary
  School;
- The project site is not located in a flood hazard area;
- There are no streams, ponds, or wetlands on the property;
- No rare, threatened, or endangered flora or fauna are found on the property; and
- Archaeological resources have been recorded on the property.

B. Short-term Impacts

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 moderate 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. Hookena Elementary School is
located about 800 feet to the north. Schools and residential areas are considered a
noise sensitive facility and construction noise may be audible in parts of the school.
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 facility.

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 is properly equipped with mufflers in good operating condition.

Site work will expose soil thus creating opportunities for runoff and erosion. Trenching, grading, and stockpiling activities 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.

Filling the site will cover the concrete slab, terrace, outhouse (to be removed) and sections of a stone wall located on the south side of the lot. These features were identified in the archaeological study are not considered to be significant.

On-site flora is common to the Island and State of Hawaii. None are considered rare, threatened, or endangered or proposed for such status.

Construction in the right-of-way will interrupt traffic on Mamalahoa Highway resulting in short traffic delays for motorists. This impact cannot be avoided. At least one lane of the road will be closed and traffic diverted to the other half during working hours until the waterline connection is completed.

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;
- Limiting construction to between 8:00 AM and 3:30 PM, Monday through Friday.

Trenches will be backfilled at the end of the workday. 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 if material loading and off-loading occurs within the Mamalahoa Highway right-of-way.

Overhead utilities should not be affected during construction. Construction plans will be submitted for review and construction operations coordinated with the respective utility providers.

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.

C. Long-term Impacts

Significant long-term adverse environmental impacts are not anticipated. At one time the site was cleared of vegetation, and because of a period of non-use, vegetation has been reestablished on the premises.

The new standpipe site like the existing standpipe site will be visible and accessible from Mamalahoa Highway. To prevent vandalism, the facility will be secured during night hours except during emergency situations.

No change in the use of the standpipe facility is anticipated. Water carriers will continue to top load their tanks and homeowners will dispense water from hose bibs as is now done at the existing standpipe. One of benefits of the project is that an additional loading station will be constructed and an additional hose bib provided for homeowners.

The new standpipe site will provide a continuing source of potable water for residents who rely on catchment systems for their water. The Department of Water Supply will continue its mission to provide residents of the County of Hawaii with high quality potable water.
ALTERNATIVES TO THE PROPOSED ACTION

A. No Action

Because the Department of Water has to vacate the existing standpipe site and continue to provide an alternative potable water source for residents of the Districts of South Kona and Ka'u, a No Action alternative is not a real alternative. To not provide a source of water for residents is contrary to the mission of the Department of Water Supply.

B. Alternative Location

The Hookena Courthouse Lot is the only County-owned parcel in the immediate area that is available at this time for the proposed use. This location is visible and directly accessible from Mamalahoa Highway.
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.

<table>
<thead>
<tr>
<th>Permit</th>
<th>Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>County of Hawaii</td>
<td></td>
</tr>
<tr>
<td><em>Plan Approval</em></td>
<td></td>
</tr>
<tr>
<td>Building, Electrical, and Plumbing Permits</td>
<td>Planning Department</td>
</tr>
<tr>
<td>Grubbing, Grading, Excavation and Stockpiling</td>
<td>Department of Public Works</td>
</tr>
<tr>
<td>Best Management Practices</td>
<td>Department of Public Works</td>
</tr>
<tr>
<td>State of Hawaii</td>
<td></td>
</tr>
<tr>
<td>Variance from Pollution Controls</td>
<td>Department of Health</td>
</tr>
<tr>
<td>Permit to Perform Work within a</td>
<td>Department of Transportation</td>
</tr>
<tr>
<td>State Highway Right-of-Way</td>
<td></td>
</tr>
</tbody>
</table>
AGENCIES AND ORGANIZATIONS TO BE CONSULTED IN PREPARING THE ENVIRONMENTAL ASSESSMENT

A. Pre-Assessment Consultation

Planning Department, County of Hawaii
Historic Preservation Division, State of Hawaii
Fish and Wildlife Service, US Department of the Interior

B. Environmental Assessment

The Draft Environmental Assessment for the Hookena Standpipe Replacement was published in the Office of Environmental Quality Control Environmental Notice of April 23, 2003 and May 8, 2003. Publication initiated a 30-day public review period ending on May 23, 2003. The Draft Environmental Assessment was mailed to agencies and organizations below. An asterisk* identifies agencies and organizations that submitted written comments during the review period. All comment letters and responses are found in Appendix A.

County of Hawaii

*Department of Public Works
*Planning Department
*Police Department
Fire Department
Civil Defense

State
Department of Agriculture
Department of Education
*Hawaii Island School District
Department of Health
*Office of Environmental Quality Control
Department of Land and Natural Resources
*Division of Historic Sites
Department of Transportation

Federal
US Fish and Wildlife Service
Kona Forest Wildlife Refuge

Others
*Hawaii Electric Light Company
Hookena School Kealakekua Public Library (Placement)
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;

Four archaeological features are located on the project site. These features have already been evaluated and their information content retrieved by a previous archaeological survey (Kennedy, 1992).

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

The project does not curtail the beneficial use of the environment. At one time the site served a public purpose but due to non-use it was overgrown by vegetation and unused. The proposed project would put the site in a new use for the benefit of the public.

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 may exceed the allowable noise standard established by Hawaii Administrative Rules. Construction noise, however, will be temporary 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 replace an existing Department of Water Supply facility that will be closed when the new facility is completed. 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 a lot that at one time was cleared and graded for a prior public use.

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.

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

There are no rare, threatened or endangered flora or fauna or habitat found on the property.

10) Detrimentally 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 after the site is grubbed and graded to design elevations. 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.

Hookena and almost all the District of South Kona and part of the District of Kau are located in an area subject to lava inundation; where the probability of coverage by lava flows from southwest rift zone of Mauna Loa is considered to be high.

The hazard zone delineations are based on the location and frequency of prehistoric and historic eruptions. Between 1868 and 1950 there have been five lava flows from the southwest rift zone that have discharged into the Pacific Ocean. Since that time Mauna Loa has been relatively inactive with a summit eruption occurring in 1975. A 1984 eruption advanced lava northeast to within 4 miles of Hilo.

The severity of the hazard within a single zone can vary as a result of topographical variations and other natural features that comprise the entire zone. For example, the hazard posed by lava flows decreases gradually as the distance from vents increases.
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 identified in county plans.

13) Requires substantial energy consumption.

Electrical energy will be required for security lighting. Power usage is estimated at 80 kwh per month.
REFERENCES


Cultural Surveys Hawaii. No Date. Letter Report Completion of the Inventory for the South Kona, County of Hawaii, Standpipe Water Systems Locale, TMK: 8-6-09:11


April 23, 2003

Milton Pavas
Department of Water Supply
240 Kekuanono Street, #20
Hilo, Hawaii 96720

Dear Mr. Pavas:

Subject: Draft environmental assessment (EA) for Hookena Standpipe Replacement

We have the following comments to offer:

Contacts: Notify the nearest neighbors or neighbors of the proposed project, allowing them sufficient time to review the draft EA and submit comments. Document all contacts in the final EA, including those made during the pre-certification phase, and include copies of any correspondence. Also enclose a copy of the determination letter from the Historic Preservation Division of DLNR.

Non-potable water: Will non-potable water be made available for agricultural use?

Cultural impacts assessment: An assessment of impacts to local cultural practices by the proposed project is now required by law. In the final EA include such an assessment. For assistance in the preparation refer to our Guidelines for Assessing Cultural Impacts. Go to our homepage at http://www.state.hawaii.gov/hc/guidanceindex.html or contact our office for a paper copy.

Significance criteria:

In criterion 911, "Affects or is likely to suffer damage by being located in an environmentally sensitive area..." you have noted that Hookena is located in an area subject to lava inundation. It is highly likely that such an impact will be inundated by lava. If so, because of the possibility of this significant impact, the law requires that an EIS be prepared. If not, in the final EA expand your explanation to indicate why the impact will be minor.

In criterion 913 you have noted consumption of electrical energy, but did not indicate if it is substantial or not. Include a fuller explanation in the final EA.
June 12, 2003

Genevieve Salomonson, Director
Office of Environmental Quality Control
State of Hawaii
225 South Beretania Street, Suite 702
Honolulu, Hawaii 96813-3239

Dear Ms. Salomonson:

Subject: Hookena Standpipe Replacement
TNM: 8-6-9-11
Portion Kaahale-Kalakehi, District of South Kona, Hawaii

Thank you for reviewing the Draft Environmental Assessment prepared for the subject project. We offer the following responses to your comments in the order they were presented.

1. Pre-construction contacts will be documented in the Final Environmental Assessment.

   A copy of the determination letter from the State Historic Preservation Division is attached.

2. The Hookena Standpipe Replacement Project will provide potable water for domestic consumption. Homeowners may use water from the standpipe for agricultural purposes.

3. No cultural resources are known to be present on the ground surface of the Hookena Courthouse Lot. Some cultural resources, however, are known to be present in locations near the subject property and in a lava tube complex that passes beneath the subject property. There are cave openings both nearby and across Mauna Loa Highway and adjacent to the Courthouse Lot that access the lava tube complex. Archaeological Consultants of Hawaii investigated the caves and the lava tubes in 1995 and a description and discussion of their findings is presented in "An Archaeological Inventory Survey with Limited Subsurface Testing on Property for the Proposed Expansion of Hookena School (Buffalo Zoo)."

4. Hookena and almost all of the District of South Kona and part of the District of Ka'u are located in an area where the probability of coverage by lava flows is considered to be high. The hazard zone definitions are based on the location and frequency of prehistoric and historic eruptions. Since 1868 there have been five lava flows from the southwest rift zone of Mauna Loa that have discharged into the Pacific Ocean. The last lava flow was in 1956. Since that time Mauna Loa has been relatively inactive with a summit eruption occurring in 1976.

   The hazard zone definitions are based on the location and frequency of prehistoric and historic eruptions. Between 1868 and 1956 there have been five lava flows from the southwest rift zone that have discharged into the Pacific Ocean. Since that time Mauna Loa has been relatively inactive with a summit eruption occurring in 1976. A 1984 eruption advanced lava northeast to within 4 miles of Hilo.

   Electrical energy will be required for security lighting. Electrical needs are estimated at 80 kw per month.

Sincerely,

GERALD PARK URBAN PLANNER
Gerald Park

Attachment

c: O. Nichols, DWS-COIL
April 22, 2003

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

SUBJECT: Hookana Standpipe Replacement
Thko: 8-6-009: 011
Portion of Kauhako-Kalihili, District of South Kona, Hawaii

We have reviewed the Environmental Assessment dated March 2003 and have no comments.

If you have any questions please contact Kim Emner of our Kona office at 327-3530.

KE

cc: Engineering-Kona
    Engineering-Hilo

April 21, 2003

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

Dear Mr. Park:

SUBJECT: Hookana Standpipe Replacement
Thko: 8-6-009: 011
Portion of Kauhako-Kalihili, District of South Kona, Hawaii

Our staff has reviewed the Draft Environmental Assessment regarding the
above-referenced subject and has no comments or objections to offer at this
time.

Should you have any questions, please contact Captain John Dawes, Commander
of the Kona Patrol Division, at Phone No. (808) 328-4211.

Sincerely,

LAWRENCE K. MANNUA
POLICE CHIEF

THOMAS D. HIXCOX
ASSISTANT POLICE CHIEF
AREA II OPERATIONS

TJH:env
Mr. Gerald Park
Page Two

Significant for information content (criterion D of the Hawaii Register of Historic Places) and for its traditional cultural significance to Hawaiians (criterion E).

We feel the proposed action will occur at a sufficient distance from the human skeletal remains in Site 18001 that there will be no direct adverse effect to those portions of the site where remains are present. However, we have some concerns about the possibility that construction activities and vehicular traffic will compromise the structural integrity of the lava tube where it passes underneath the project area. The proposed construction method partially mitigates these concerns, in that no cutting or ground disturbance is to be undertaken, and instead fill is to be placed onto the project area to bring it up to grade with the highway, apparently reducing the potential for a tube collapse. As the standpipe site will be subject to frequent public use, there is a chance that burials located off the subject property could be accessed and disturbed from the standpipe property should a tube collapse occur.

The potential adverse effect on the burials in Site 18001 can be mitigated through on-site monitoring during construction activities, and a component to the mitigation plan that addresses what procedures will be undertaken if the integrity of Site 18001 is compromised. A Monitoring Plan should be submitted for our review and approval prior to commencing any alteration on the subject property.

If you have any questions regarding this matter, please feel free to contact Dr. Pat McCoy, Hawaii Island Archaeologist at (808) 582-8920, or MaryAnne Maigret, Assistant Hawaii Island Archaeologist at 327-3690.

Aloha,

P. Holly McFadyen
P. Holly McFadyen, Acting Administrator
State Historic Preservation Division

Kamanäo Kûle, Burial Sites Program
David Shideler, Cultural Surveys Hawaii
June 12, 2003

GERALD PARK
Urban Planner

P. Holly McElhany, Acting Administrator
Historic Preservation Division
Department of Land and Natural Resources
State of Hawaii

555 Kalakaua Building
601 Kamohila Boulevard
Kapolei, Hawaii 96707

Dear Ms. McElhany:

Subject: Hookana Standpipe Replacement

TMK: 8-6-9: 11
Portion of Kaauko-Kalaliihi, District of South Kona, Hawaii

Thank you for reviewing the Draft Environmental Assessment prepared for the subject project. We offer the following response to your comments.

An archaeological monitoring plan shall be prepared and submitted to your office for review and approval prior to commencing with land clearing activities on the subject property.

We thank the State Historic Preservation Division for participating in the environmental review process. We also wish to thank Dr. Patrick McCoy and Ms. Mary Ann Malriet of your staff for the historical and archaeological information provided prior to and during the environmental assessment review period.

Sincerely,

GERALD PARK URBAN PLANNER

Gerald Park

April 29, 2003

Hawaii Electric Light Company, Inc. - PO Box 1227 - Hilo, HI 96721-1227

Gerald Park
Urban Planner

1400 Kuwek Street, Suite 17B
Honokaa, Hawaii 96714-3021

Dear Mr. Park:

Subject: Hookana Standpipe Replacement

TMK: 8-6-9:011
Portion of Kaauko-Kalaliihi, District of South Kona, Hawaii

We have reviewed the draft environmental assessment "Hookana Standpipe Replacement" and have no comments.

Sincerely,

Clyde H. Nagata, P.E.
Manager, Engineering Department

CHN inc.
May 2, 2003

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

Dear Mr. Park:

SUBJECT: Pre-Consultation on Draft Environmental Assessment
Applicant: Department of Water Supply
Project: Hookana Standpipe Replacement
Tax Map Key: R-5-9-11

This is to acknowledge receipt of your April 10, 2003 letter and a copy of the Draft Environmental Assessment for the Hookana Standpipe Replacement.

The subject 952 acre parcel is designated Agricultural by the State Land Use Commission and zoned Agricultural (A-5a) by the County. The General Plan designation is Extensive Agriculture. It is not located in the County’s Special Management Area.

In reviewing the Draft Environmental Assessment, we have the following to offer:

1. Anticipated Determination: Include your expected determination, either a Finding of No Significant Impact (FONSI) or the requirement to prepare an Environmental Impact Statement (EIS).

2. Required Permits and Approvals: According to Hawaii Revised Statutes, Section 205-4.5/7, permitted uses include “Public, private, and quasi-public utility lines and roadways, transformer stations, communications equipment buildings, solid waste transfer stations, major water storage tanks, and appurtenant small buildings such as booster pumping stations, but not including offices or yards for equipment, materials, vehicle storage, repair or maintenance, or treatment plants.”

However, the Hawaii County Code, Chapter 25, Section 25-4.11(c) states that “Public uses, structures and buildings and community buildings are permitted uses in any district, provided that the director has issued plan approval for such use.” Please note that Plan Approval is required from the Planning Director prior to obtaining a building permit for the proposed improvements.

3. Public Comments: Document contacts made with community groups and agencies before preparing the draft Environmental Assessment (EA) and include any correspondences. The law requires that a good faith attempt be made to bring to light environmental concerns prior to the formal draft EA review period.

If you have questions, please feel free to contact Esther Inamurs or Larry Brown of our office at 961-8288.

Sincerely,

CHRISTOPHER YUEN
Planning Director

ET203k
003055EP2ET203kPP+mP+mFPw+WPCW3X00V1.doc
June 12, 2003

Christopher J. Yuen, Planning Director
County of Hawaii
Planning Department
101 Prinani Street, Suite 3
Hilo, Hawaii 96720

Dear Mr. Yuen:

Subject: Honoka'a Saddle Replacement

THC: E.D.D. 11
Portico Kauhala-Kalekahi, District of South Kona, Hawaii

Thank you for reviewing the Draft Environmental Assessment prepared for the subject project. We offer the following responses to your comments in the order they were presented:

1. An Anticipated Determination: Finding of No Significant Impact will be included in the Project Profile.

2. Plan Approval will be listed as a Required Permit.

3. The Planning Department was contacted for land use information and the State Historic Preservation Division, Department of LAND and Natural Resources was consulted for archaeological and historical data concerning the site. The U.S. Fish and Wildlife Service provided materials concerning the Kona Forest Unit of the Hakalau Forest National Wildlife Refuge.

These agencies will be listed in the Final Environmental Assessment.

We thank the Planning Department for participating in the environmental review process.

Sincerely,

GERALD PARK URBAN PLANNER

Gerald Park

c: O. Nishida, BWS-COH
May 20, 2003

Mr. Gerald Park, Urban Planner
1400 Ryecroft Street, Suite B72
Honolulu, Hawaii 96814

Dear Mr. Park:

RE: Hookena Standpipe Replacement
TMIC: 8-6-009-011

The proposed site presents no adverse affect to Hookena School. We would be concerned if the alternate site, Hookena Courthouse Lot, was selected because it would then be too close to the school.

One concern voiced is that the replacement standpipe be completed before closure of the present standpipe. As we are in a dry season, usage of the present site by members of the community is constant and very heavy.

Very truly yours,

Alvin Rho
Complex Area Superintendent

June 12, 2003

GERALD PARK
Urban Planner

Mr. Rho:

Subject: Hookena Standpipe Replacement
TMIC: 8-6-009-11

Portion Kukio-Kalakahi, District of South Kona, Hawaii

Thank you for reviewing the Draft Environmental Assessment prepared for the subject project. We offer the following responses to your comments:

1. As presented in the Draft Environmental Assessment, the owner of the site of the existing standpipe has requested the Department of Water Supply to vacate the premises.

   The Hookena Courthouse Lot is the only County-owned parcel in the immediate area that is available at this time for the proposed use.

2. The Hookena Standpipe Replacement Project will be completed and placed on-line before the existing standpipe is closed.

We thank you for participating in the environmental assessment review process.

Sincerely,

GERALD PARK
Urban Planner

c/o Nishihata, DWS-CO3