



EMERGENCY RESPONSE PLAN & VULNERABILITY ASSESSMENT

LAST UPDATED FEBRUARY 15, 2017

Water System Name: Hawaiian Shores

Water System ID No: 156

Number of Service Connections: 455

Population Served: 1200

To continue minimum service levels and mitigate the public health risks from drinking water contamination that may occur during a disaster or other emergency events and in order to provide reliable water service and minimize public health risks from unsafe drinking water during those events, the Hawaiian Shores water system proposes the following Emergency Response Plan (ERP) that defines how it will respond to emergencies and/or disasters that are likely to affect its operation.

This ERP is being prepared for the Hawaiian Shores water system as depicted on the schematic system map within the appendix. The main system facilities are located near the well head adjacent to Punawai Street and include the well and pump, storage tank, two booster pumps, chlorine injection system and 12 inch and 8 inch mains that run along the southeast border of the community.

The Hawaiian Shores Community Association has provided a first line of defense for such emergencies through the negotiation of a mutual aid agreement with the Hawaiian Beaches Water Company (HBWC) with cross connection between our systems and the creation of an emergency reserve fund whose balance was \$284,909 on December 31, 2015. A copy of the mutual aid agreement is included in the appendix and it is referred to throughout this ERP. This plan will be thoroughly reviewed and updated at least annually, in December of each year. Contact type information will be updated as it changes.

1) VULNERABILITY ASSESSMENT: Disasters/emergencies that are most likely to occur in the water system's service area that are addressed are: earthquake, hurricane, tsunami, water outages due to loss of power, localized flooding, water contamination, critical equipment failure including pump, holding tank, 8 inch or 12 inch main etc., and acts of sabotage. Each of these actions can cause the system to have significant leaks, require major component repair/replacement, require back up power generation, and produce conditions that can result in water contamination. In any event, there are a series of general steps to take:

1. Analyze the type and severity of the emergency;
2. Take immediate actions to save lives;
3. Take action to reduce injuries and system damage;
4. Make repairs based on priority demand, and
5. Return the system to normal operation.

The following table summarizes events that can cause emergencies and their likelihood in our neighborhood.

**TABLE 1
PROBABILITY OF EVENTS THAT CAUSE EMERGENCIES**

Type of Event	Probability or Risk (High-Med-Low)	Comments
Fire	Low	The area does not often experience draught conditions
Water Line Breaks	High	The infrastructure is old and experiences water line breaks fairly frequently.
Source Pump Failure	Med	The system has frequently experienced source pump failures
Power outages	Med	The island often experiences power outages
Chlorine Treatment Failure	Med	The system has chlorine gas treatment and has calcium chloride tablets available for backup treatment
Chemical Contamination	Low	The water system does not have a cross connection program
Earthquakes	Med	The area does experience volcanic related earthquakes
Vandalism/Terrorism/	Low	The water system does not have a cross connection program
Tsunami	Low	A portion of the water system is within the tsunami inundation
Microbial Contamination	Low	Microbial Contamination is always a potential risk

The following tables identify the assessment, set forth immediate response actions, define what notifications need to be made, and describe important follow-up actions.

**TABLE 2
POWER OUTAGE ASSESSMENT**

Assessment	Hawaiian Shores has limited water storage and does not have a back-up power supply so therefore power outages can directly impact our water supply.
Immediate Actions	Water system staff will carefully monitor storage tank levels and will both contact HELCO to learn how long the anticipated outage will last and contact Hawaiian Beaches to determine if an emergency water can be supplied. If the anticipated outage is on-going, Hawaiian Shores will consider implementing conservation measures.
Notifications	HELCO, Hawaiian Beaches, and potentially residents.
Follow-up Actions	Potential conservation measures.

**TABLE 3
DISTRIBUTION LINE BREAK ASSESSMENT**

Assessment	Only water system personnel with experience with the water system and who have had training in water line break repairs should assess and plan for water system repairs.
Immediate Actions	Water system personnel should assess the break and determine what supplies and equipment will be necessary to make repairs prior to implementing AWWA recommendations on repairing waterlines
Notifications	Hawaii One Call and affected customers.
Follow-up Actions	<ul style="list-style-type: none"> ■ Materials used in repairing the line should be properly disinfected and the area flushed in accordance with AWWA recommendations. Cap utilized to prevent debris from entering system as much as possible. ■ When the water is restored to the distribution system, the distribution system should be flushed, chlorine residuals obtained and bacterial samples taken. ■ The water system may want to consider notifying homeowners of the outage, debris and air that may be in the line and actions the homeowners can take. ■ Any repair work should follow AWWA recommendations, which include flushing and disinfection. ■ If customers continue to complain of debris or dirty water, the operators should track where the complaints are coming from and flush the affected areas. ■ Document. Document. Document.

**TABLE 4
CHLORINE TREATMENT EQUIPMENT FAILURE**

Assessment	The water system responsible charge is responsible for making all decisions that will impact water quality or quantity.
Immediate Actions	Hawaiian Shores Staff will try to make repairs or replacements to the chlorine treatment equipment and also determine if emergency chlorination by chlorination of the tank is necessary.
Notifications	Potentially affected customers and potentially the SDWB.
Follow-up Actions	Follow-up with the SDWB if chlorine residuals are non-e.

**TABLE 5
SOURCE PUMP FAILURE ASSESSMENT**

Assessment	The Water System Responsible Charge is responsible for making all water quality and quantity decisions affecting the water system.
Immediate Actions	<ul style="list-style-type: none"> ■ Operator to determine if power failure occurred and reset and restart pumps. ■ Determine what has caused the pump failure and the likely timeline for returning to service. ■ The Responsible Charge may determine whether a water conservation notice needs to be distributed to customers. ■ The Responsible Charge may contact Hawaiian Beaches to activate the emergency interconnect. ■ Return the source pump to service ASAP.
Notifications	Hawaiian Beaches Water Company
Follow-up Actions	Determine the cause of source pump failure and if there are preventative measures that could be implemented.

**TABLE 6
MICROBIAL (COLIFORM, E. COLI) CONTAMINATION ASSESSMENT**

Assessment	The water system responsible charge is responsible for making all decisions that will impact water quality or quantity.
Immediate Actions	Notify the Department of Health and implement TCR (total coliform rule) and GWR (ground water rule) response plan. TCR and GWR response plans are attached to this document.
Notifications	Department of Health
Follow-up Actions	Determine the cause of microbial contamination if possible and if there are preventative measures that could be implemented. Document findings.

**TABLE 7
FIRE ASSESSMENT**

Assessment	At this time, it does not appear that Hawaiian Shores Staff has implemented a fire safety program (testing of fire alarms, sprinklers, extinguishers, but do have access or training on fire hydrants that have been tested on an annual basis). Hawaiian Shores staff is working to implement a fire safety program.
Immediate Actions	Call 911
Notifications	Call 911
Follow-up Actions	Hawaiian Shores Staff will review the cause of the fire and if corrective action is necessary.

**TABLE 8
VANDALISM & TERRORIST ATTACK ASSESSMENT**

Assessment	All forms of vandalism or terrorist activities need to be investigated immediately.
Immediate Actions	Call the local police department and if there was a possible intrusion into the water system, contact the Hawaii Department of Health. If there was an intrusion into the system, it should be isolated from the water system and disposed of properly.
Notifications	Hawaii County Police Department and Department of Health
Follow-up Actions	Hawaiian Shores should review how access was gained to the water system and what actions should be implemented to prevent intrusions in the future.

**TABLE 9
EARTHQUAKE ASSESSMENT**

Assessment	Water system personnel will assess the water system for damage.
Immediate Actions	Water system personnel will drive the distribution system to determine if there are any repairs necessary.
Notifications	If repairs are necessary, affected customers will be notified.
Follow-up Actions	None.

**TABLE 10
CHEMICAL CONTAMINATION ASSESSMENT**

Assessment	The Water system responsible charge will determine if chemical contamination likely occurred.
Immediate Actions	The area of contamination should be isolated and flushed as soon as possible. If the area cannot be isolated and flushed the Department should issue notifications to their customers and contact the department of Health.
Notifications	Hawaii Department of Health
Follow-up Actions	Hawaiian Shores should review how access was gained to the water system and what actions should be implemented to prevent intrusions in the future.

**TABLE 11
TSUNAMI ASSESSMENT**

Assessment	Parts of the Hawaiian Shores water system are within the tsunami inundation zone and other parts of the island including power can be dramatically affected by a tsunami.
Immediate Actions	The water system responsible charge will monitor civil defense warnings of the likely impact to Hawaiian Shores and remain on standby during tsunami events as warranted. Appropriate actions may include turning off water within the tsunami inundation zone and waterline repairs.
Notifications	The Hawaiian Shores Board
Follow-up Actions	Repair and return to service as soon as possible.

- 2) DESIGNATED RESPONSIBLE PERSONNEL:** For designated responsible personnel and chain of command and identified responsibilities, see the attached Table 14 “Water System Emergency /Disaster Personnel and Responsibilities”.
- 3) INVENTORY OF RESOURCES:** A detailed inventory of system resources that are used for normal operations and available for emergencies; includes maps and schematic diagrams of the water system, lists of emergency equipment, equipment suppliers, and emergency contract agreements that are kept at the

water system office. Additional copies of these items are stored off site and within easy access of the Board president.

4) EMERGENCY OPERATIONS CENTER: The water system office at 15-2793 Honu Street has been designated as the communication network emergency operations center. Emergency contact information for equipment suppliers is attached. The telephone and FAX will be the primary mode of communication in an emergency. The secondary location, should the primary one be un-useable will be the Hawaiian Shores Community Center located on Kahakai Blvd., adjacent to the Keonepoko School.

5) ACTIVATION OF EMERGENCY OPERATIONS CENTER: The Emergency Operations Center can be activated for a water system emergency in priority order by the DSO4, or the HSCA Board President and the contact information for these individuals is shown in Table 14. Whoever activates the center will be responsible for the initial call in of staff and public notifications that require immediate attention. It is almost always advisable to contact Police and Fire (contact information shown in Table 12) during this time to ensure they are made aware of the potential for the use of their services. The individual who activates the center will also assemble staff at the EOC and conduct an initial assessment of the emergency and determine the need for outside assistance and further public notifications.

**TABLE 12
WATER SYSTEM LOCATIONS/POLICE FIRE CONTACTS**

Agency	Address, City	Phone #	FAX #
Water System (Primary Site)	Punawai St 46 Pahoa, HI 96778	808-965-8140	808-965-0802
(Hawaiian Beaches Water Co., via Mutual Aid Agmt. (Alternate Site)	15-966 Punawai St. Pahoa, HI 96778	808-965-9882	
Fire Department	15-2605 Keaau- Pahoa Rd., Pahoa, HI 96778	808-981-8394	
Law Enforcement	15-2615 Keaau- Pahoa Rd, Pahoa, HI 96778	808-965-2716 808-935-3311	

In addition, should telephone communication be lost, the water system has made arrangements with Hawaii County *Civil Defense*, to provide emergency

communications with emergency response agencies via their emergency response radio frequencies.

- 6) OTHER AGENCY COORDINATION:** Coordination with governmental agencies for health and safety protection; technical, legal, and financial assistance, and public notification procedures are vital to ensure proper communication, to meet certain regulation requirements and to receive their valuable input during the emergency. EOC staff will develop an emergency specific check list for these contacts and provide the appropriate agencies regular update and status reports.
- 7) RESPONSE PROCEDURES:** Emergency response personnel will, as quickly as possible, determine the status of other employees, assess damage to water system facilities, provide logistics for emergency repairs, monitor progress of repairs and restoration efforts, communicate with health officials and water users accordingly and document damage and repairs.
- 8) PUBLIC NOTIFICATION PROCEDURES:** Public notice procedures should be developed before a disaster and not during the event. Public notices are a significant part of communicating with customers and involve close coordination with the local media. Local media contacts are shown in Table 13. Standard public notifications have been developed by HBWC for use during an emergency such as: 1) Precautions during a water outage or low pressure problem; 2) Boil Water Order (BWO); 3) Unsafe Water Alert (UWA), or; 4) Do Not Drink Notices, These items are incorporated within this ERP in the Appendix.

**TABLE 13
MEDIA NOTIFICATION LIST**

KHNL	847-3246			
KLEI	329-8120			
KHET-PBS	973-1000			
KAPA	935-5524	296-5272	935-6858	961-0651
B97	935-5461			
KWXX	935-5461	296-5999		
KPUA	935-3367	FAX- 935-7761		

During regular working hours the office staff designated in Table 14, with approval of the HSCA Board President or his/her designee, will contact the news media at television station KHNL to broadcast the necessary warning. The local radio stations will also be contacted. The television and radio personnel are available at all hours. As a follow-up measure, we will also contact the Hawaii Tribune Herald a local newspaper that serves the East side of the Island. The warnings will be issued in English.

A special telephone answering service can also be quickly set up at the utility headquarters (using the regular company numbers) to answer questions that will come in from consumers. Questions are anticipated regarding locations of outages and anticipated times. A map will be available to the telephone answering personnel to determine the area affected and Operator will keep office up to date on situation.

It is anticipated that the time for notification to the television and radio audiences will be very short. For notification to be issued in other than normal hours, the same media will be contacted and an announcement will be scheduled for as long as is necessary.

A BWO, UWA or Do Not Drink Notice can be issued by one, or a combination of the following agencies:

- SDWB – Safe Drinking Water Branch (Designated personnel-District Engineer, Mike Miyahira, **808 586-4258**).
- SDWB – Safe Drinking Water Branch (Designated personnel-Environmental Engineer, Jennifer Nikaido, **808 586-4285**)
- Local Department of Health (Designated personnel-County Health Officer- Theresa MCGheen-Takiue, **808 933-0401**).
- Affected Water System (Designated personnel-responsible person in charge of the affected water system, i.e., Manager, Owner, Operator etc. The Hawaiian Shores water facility has identified Mark Prescott, whose contact information is shown in Table 14).
- If the above personnel cannot be reached during the emergency then contact should be made with Civil Defense by calling either **808 935-0031** or **808 935-3311**.

All public notifications (BWO, UWA or Do Not Drink Notices) should be coordinated with the SDWB District Engineer, County Department of Health prior to issuing a public notice. However, any one of the three agencies can act in an emergency to immediately issue a BWO or UWA, if delays would jeopardize public health and safety. The SDWB District Engineer or the water system must notify the County Health Department and the County Health Officer prior to or immediately after issuing a public notice. Notice must be given directly to a person, and a message left on voicemail or answering machine is not sufficient to meet this requirement. Details of the person responsible for completing this notification and the method that will be utilized is contained in the ERP, and is attached to this plan.

The following standard public notices are provided in the Appendix of this report.

Consumer Alert During Water Outages or Periods of Low Pressure –

If a water system is experiencing power outages, water outages or low pressure problems, a consumer alert may be issued to the public. The notice provides consumers information on conserving water and how to treat the water with household bleach if the water quality is questionable.

Boil Water Order (BWO) – A BWO should be issued when minimum bacteriological water quality standards cannot be reasonably assured. To assure public health protection a BWO should be issued as soon as it is concluded by the designated personnel that the water supply is or may be biologically unsafe. Examples of these situations include:

1. Biological contamination of water supply system, including but not limited to:
 - Positive total or fecal coliform bacteriological samples;
 - Prolonged water outages in areas of ruptured sewer and/or water mains;
 - Failed septic tank systems in close proximity to ruptured water mains;
 - Ruptured water treatment, storage, and/or distribution facilities in areas of known sewage spills
 - Known biological contamination;
 - Cross-connection contamination problems;
 - Illness attributed to water supply.
2. Unusual system characteristics, including but not limited to:
 - Prolonged loss of pressure;
 - Sudden loss of chlorine residual;
 - Severe discoloration and odor;
 - Inability to implement emergency chlorination.
3. Implemented due to treatment inadequacies.

A BWO is not appropriate in response to most types of chemical contamination. A BWO may also be inappropriate in cases where boiling the water may tend to concentrate regulated contaminants that are known to be in the water and that are just below an MCL (e.g. Nitrates or Nitrites that are over 50% of the MCL).

Unsafe Water Alert (UWA)/“Do Not Drink” – In the event a water quality emergency due to known or suspected chemical (non-bacteriological) contamination to a water system a UWA or “Do Not Drink” should be issued. Water should not be used for drinking and cooking, but may be used for sanitation purposes (e.g. toilet flushing, clothes washing, etc.). Examples of these situations include:

1. Known or suspected widespread chemical or hazardous contamination in water supply distribution, including but not limited to:
 - Ruptured water distribution system (storage tanks, mains) in area of known chemical spill coupled with loss of pressure;
 - Severe odor and discoloration;
 - Loss of chlorine residual;
 - Inability of existing water treatment process to neutralize chemical contaminants prior to entering the distribution system.
2. Threatened or suspected acts of sabotage confirmed by analytical results, including but not limited to:
 - Suspected contamination triggered by acts of sabotage or vandalism.
3. Emergency use of an unapproved source to provide a supplemental water supply.

Unsafe Water Alert (UWA)/“Do Not Use” – In the event a known or suspected contamination event to a water system, where the contaminate may be chemical, biological or radiological a UWA or “Do Not Use” should be issued. Water should not be used for drinking, cooking, or sanitation purposes. Examples of these situations include:

1. Known or suspected widespread chemical or hazardous contamination in water supply distribution, including but not limited to
 - Terrorist contamination event.

Cancellation of Public Notification

Once a BWO/UWA is issued, the only agency that can rescind the public notice is the drinking water primacy agency. SDWB DOH or HBWC will not lift the BWO for a microbial contaminant until two rounds of samples, collected one day apart, for coliform bacteria samples have been analyzed and the results are negative. Special chemical sampling may be required to get approval to rescind an UWA, please contact the DOH SDWB to determine what sampling will be required.

- 9) RESUME NORMAL OPERATIONS:** The steps that will be taken to resume normal operations and to prepare and submit reports to appropriate agencies will include identifying the nature of the emergency (e.g., earthquake-causing water outage/leaks, fire or power outage causing water shortage/outage, sabotage resulting in facility destruction or water contamination).

a. Leaks (Result of earthquake, etc.)

- i. Immediately increase system disinfectant residual as a precaution, until normal service is resumed. Determine the locations of leaks and make temporary repairs using clamps and other pipe repair devices that will allow for repairs to be made while system pressure is maintained. If this is not possible, isolate leaks by turning off power or flow, to repair or replace the pipe. Repair or isolate major breaks to allow service to the maximum system population possible.
- ii. Disinfect all repairs as per attached AWWA Standards¹;
- iii. Reestablish normal service.

b. Low pressure or service interruption (Result of earthquake, fire, storm, water source outage, power outage, etc.) – See also section on Leaks, above.

- i. Increase production, if possible, to provide maximum system output.
- ii. Increase disinfectant residual as a precaution against potential contamination.

If any customers have experienced low pressure or a water outage as a result of an earthquake, fire, storm, water source outage, power outage or any other event or failure, immediately contact your DOH SDWB to determine if a Boil Water Order (BWO) must be issued to users. ***Note: Whether issued by the water system or a regulatory agency, the BWO can only be rescinded or lifted by DOH SDWB. Normally the regulatory agency will consider rescinding a BWO after total coliform sampling on two consecutive days show an absence of total and fecal coliform organisms.***

c. Power outage

- i. Place emergency generator on line to provide minimum water pressure to system. Anticipate need for generator but never let the tank get less than half full during any power outage.
- ii. Increase disinfectant residual as precaution to potential contamination.
- iii. See also water outages, above.

d. Contamination

- i. Immediately, contact DOH SDWB in accordance with the Emergency Notification Plan. Follow the directions of DOH SDWB steps to be taken, emergency notification of users, and public notification.

¹ Copies of the AWWA C651 Standard for Disinfecting Water Mains or the C652 Standard for Disinfection of Water-storage Facilities, can be purchased by contacting the American Water Work Association, or online at <http://www.awwa.org/>

- ii. Identify location and source of contamination.
- iii. If contamination is from system source, isolate or treat source.
- iv. If contamination is an act of sabotage, take appropriate action based on nature of contamination. Immediately contact local law enforcement and your regulatory agency (DOH SDWB). Actions should be taken in consultation with the regulatory agency and could include shutting off water until all contaminants are identified.

e. Physical destruction of facility or evidence of tampering (sabotage)

- i. Immediately contact local law enforcement and regulatory agency for consultation.
- ii. Consider the steps necessary to isolate the facilities or portions of the system that may be affected (close valves, turn off pumps, etc.).

All emergencies will be documented along with action taken, and kept in the files of the water system office. Acts of sabotage will be reported to the local law enforcement agency.

**TABLE 14
WATER SYSTEM EMERGENCY/DISASTER PERSONNEL AND
RESPONSIBILITIES**

Name	Telephone No. (Work)	Role
Mark Prescott	808-756-5788 cell	DSO-4 Operator in Charge
Steven Bailey	513 374-9661 cell 513 898-9133 home	Project Manager
Timothy Manning	801 541-1670 cell	Maintenance Foreman & DSO-1
Roger Guenette	808-936-2935 cell 808-965-5090 home	President-HSCA
Carin Sekli	808-965-8140	Office Manager
Saraswati Tokura-Ellsworth	808-965-8140	Clerical Assistant

TABLE 15
External Emergency Contact List

Agency/Department	Telephone No. (Day) Telephone No. (After Hours)
Hawaiian Beaches Water Company Kate Prescott	965-9882 345-4865
Fire Department	981-8379 961-8336
Local Law Enforcement	965-2716 966-5835 961-8300 935-3311
Civil Defense	935-0031
FBI Office (terrorism or sabotage) (Also notify local law enforcement.)	808-521-1411
Dept. of Health Safe Drinking Water Branch Hilo Oahu	933-0401 961-8321 586-4258
RCAC	313-0095
Department Of Water Supply Elaine Chiu (civil engineer)	961-8060 961-8790

10) EMERGENCY SUPPLIER CONTACT AND CRITICAL EQUIPMENT

ACQUISITION: Once the immediate impacts of the emergency have been addressed and the system made as safe as possible with materials and staffing readily available, it is essential to return the system back to normal operation as soon as possible. This can require replacement of critical components of the system that are not practical to keep on hand or have ready due to their high cost. This includes large storage tanks, re-drilling of the well due to wellhead related failures, pump replacement, and the longer term use of a generator should a power outage be expected to last more than 8 hours. Ensuring that these items or services can be requested or ordered as soon as their need is determined will help expedite the return to normal operation and lessen the

duration of low water pressure than can result through the use of the mutual aid agreement with the Hawaiian Beaches Water Company

Additionally, knowing where to get more standard replacement parts and including this information within the Emergency Response Plan helps expedite repairs that can be made more immediately. The following is a list of services or components that are either on hand or that could be required. Items that are not on hand can be acquired from the businesses shown and those items with extremely long lead times show an estimate of their delivery times. The contact information for these businesses is also shown in Table 16.

11)

- A. List of equipment on hand for emergency repairs
 - 1. Miscellaneous pipes and fittings, 2", 4", 6" & 8", approximately 100 count 20 of each. Repair clamps, dresser sleeves etc.
 - 2. Backhoe
 - 3. Jackhammer, generator, hydraulic power pack, field lights
- B. List of sources of needed equipment and services, not on hand
 - 1. General Construction Machinery: Puna Rentals, Earth Karvers
 - 2. Electrical and Pump Repair: Derricks Drilling, Beylik, Paul Lieb, Big Island Electrical, Briant Construction, Water Power Solutions LLC.
 - 3. Large Generator for long term power outage, Generator Wizards Hilo.
 - 4. Technical Support: RCAC Briant Construction, Tak Technology
- C. List of distributors or suppliers of replacement parts for the system
 - 1. For pipes valves and fittings: Fergusons, Central Supply
 - 2. For pumps, electrical: Beylik, Derricks Drilling, Water Power Solution

3. Large Storage Tank, (100,000 gallons, lead time and installation at least 8 weeks), Water Works Hilo, USA Tank, Goodman Missouri
4. For Chlorination: BEI, USA BLUE BOOK
5. For Mechanical (Backhoe): Lees Tire Repair, Jeff Silva
6. Well Drilling: (Installation and lead time 2 months, Derricks Drilling

Staff will immediately assess the need for replacement services and components but must also seek proper approvals before placing orders. The HSCA Board President may need to be asked for emergency approvals, especially for those components that are high priced. However, every effort will be made to acquire equipment and services as soon as possible.

**TABLE 16
EMERGENCY SERVICES & SUPPLIES PHONE NUMBERS**

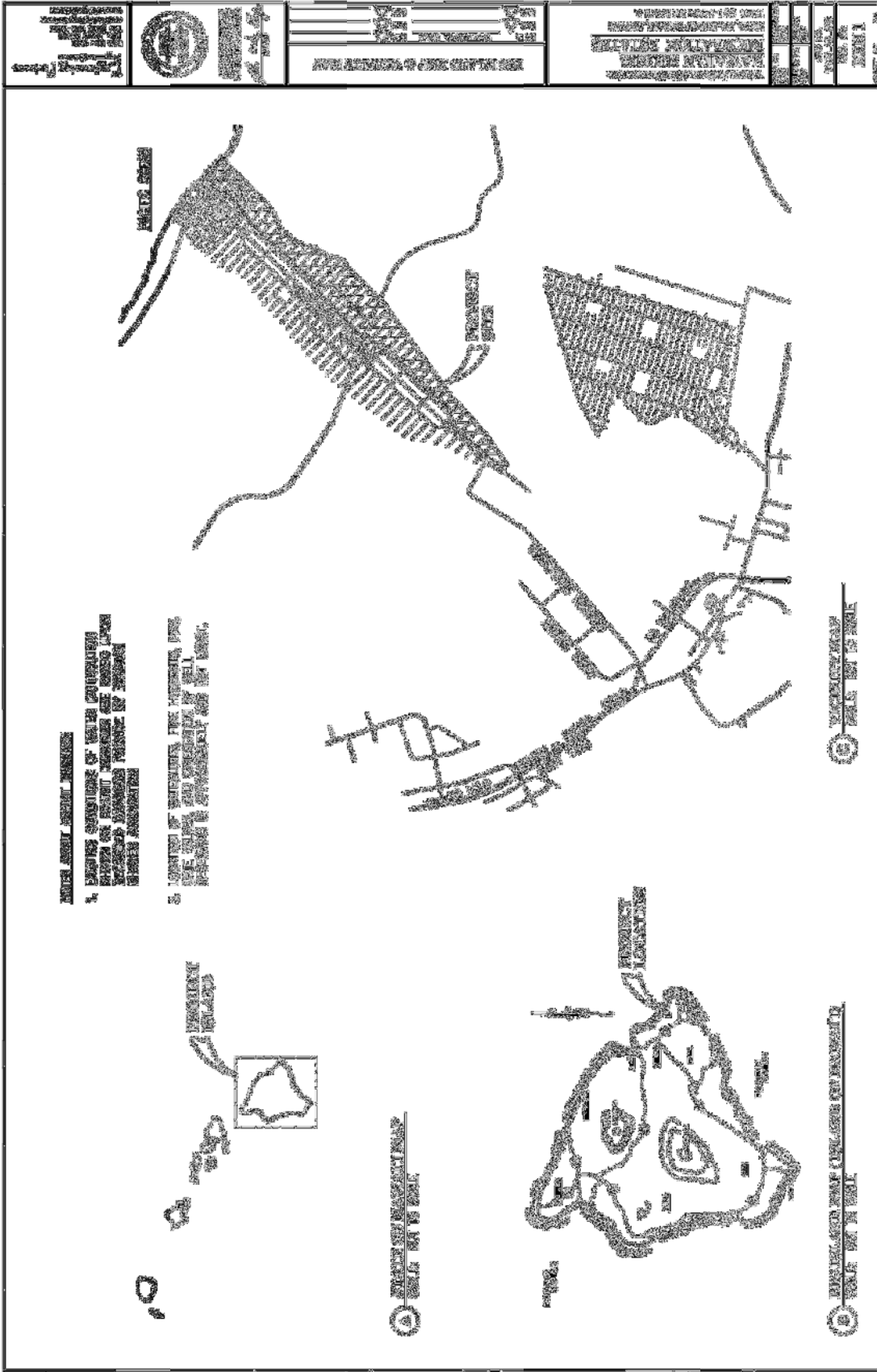
Contact	Name	Phone (Day)	Phone (after hours)
Fergusons	Robert	933-3200	620-6048 345-6942
Central Supply		961-5855	
DOH Labs	Theresa	933-0401	
Beylik	Muris	682-5554	478-2963
BEI		933-7813	
County DWS	Milton	961.8790	
Electrician	Edward Hirayama	969-6915	
Mechanic	Jeff	345-8024	928-6174
Generator Wizards	Ken	969-7777	
Briant Construction	Lambert	428-3247	651-4206
Water Works Hilo		933-9111	
Derricks Drilling	Derrick	557-5309	
USA Tank	Parker Chapman	417 529-7381	
Water Power Solutions	Conrad	328-3385	
Big Island Electric	Gilbert	965-5554	
Lees Tire	Lee	937-9200	
Big Island Electric	Gilbert	965-5554	
Earth Karvers	Les	937-5071	

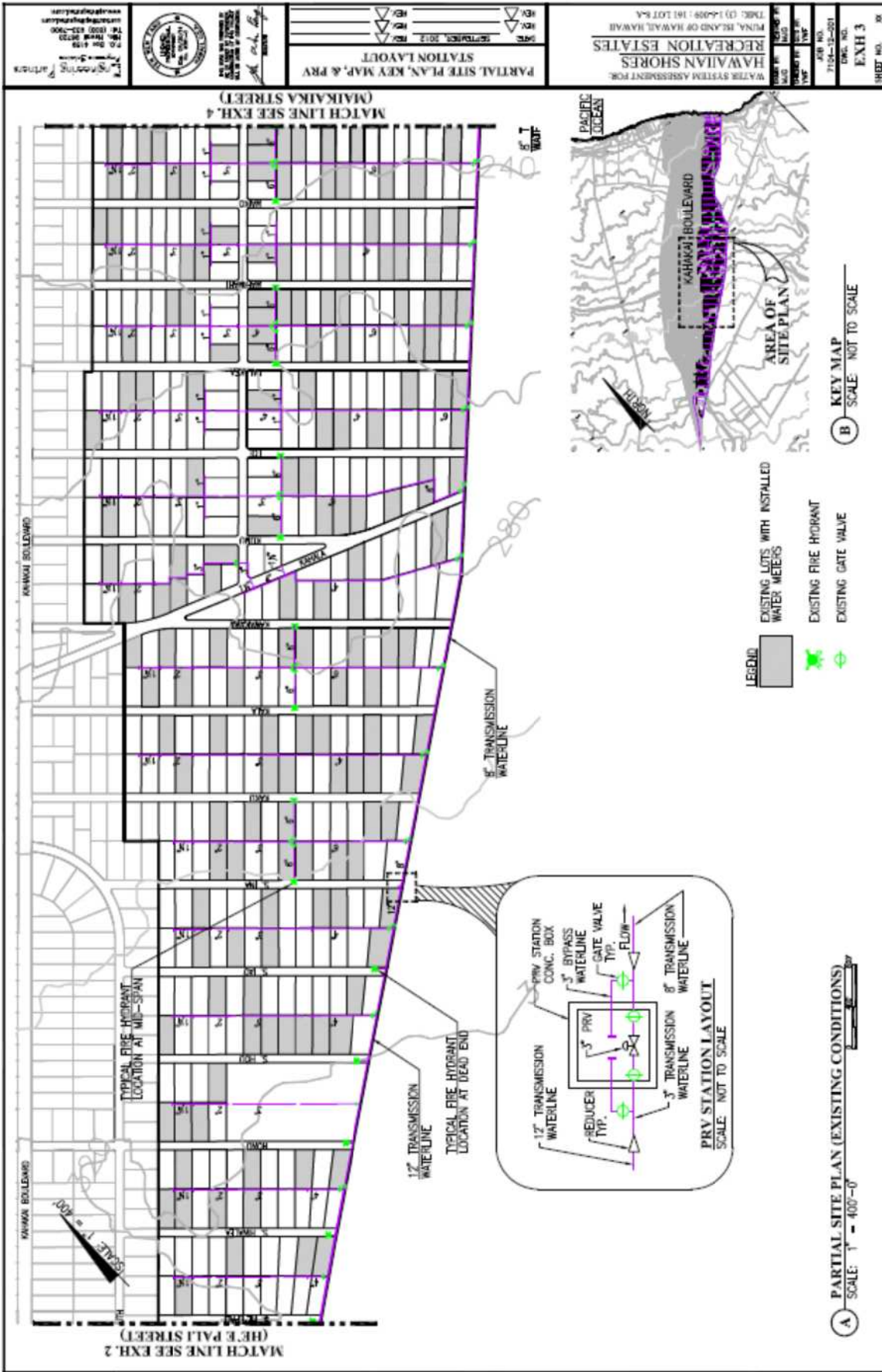
USA Bluebook		1-800-548-1234	
Tak Technology	Tim	1-866-238-7771	
RCAC	Don Needham	313-0095	
Puna Rentals		930-6793	
Servco Insurance	Michele	808-930-3229	

APPENDICES

- APPENDIX 1 System Map of Sources and Distribution Area**
- APPENDIX 2 Consumer Alert during Water Outages or Periods of Low Pressure**
- APPENDIX 3 Boil Water Order (Emergency Situation)**
- APPENDIX 4 Unsafe Water Alert – Do Not Drink**
- APPENDIX 5 Unsafe Water Alert – Do Not Use**
- APPENDIX 6 Tsunami Inundation Area**
- APPENDIX 7 Mutual Aid Agreement**

APPENDIX 1







APPENDIX 2

PUBLIC NOTICE

CONSUMER ALERT DURING WATER OUTAGES OR PERIODS OF LOW PRESSURE

1. If you are experiencing water outages or low water pressure, immediately discontinue any non-essential water usage. This includes all outdoor irrigation and car washing. Minimizing usage will reduce the potential for the water system to lose pressure or completely run out of water. Please notify your water system of the outage or low pressure.
2. If the water looks cloudy or dirty, you should not drink it. Upon return of normal water service, you should flush the hot and cold water lines until the water appears clear and the water quality returns to normal.
3. If you are concerned about the water quality or are uncertain of its safety, you may add eight drops of household bleach to one gallon of water and let it sit for 30 minutes or alternatively, if you are able, water can be boiled for one minute at a rolling boil to ensure its safety.
4. Use of home treatment devices does not guarantee the water supply is safe after low pressure situations.
5. Do not be alarmed if you experience higher than normal chlorine concentrations in your water supply since the Department of Health is advising public water utilities to increase chlorine residuals in areas subject to low pressure or outages.
6. The Hawaii Department of Health has also advised public water systems to increase the bacteriological water quality monitoring of the distribution system in areas subject to low pressure. They may be collecting samples in your area to confirm that the water remains safe. You will be advised if the sampling reveals a water quality problem.
7. Your water system is committed to make certain that an adequate quantity of clean, wholesome, and potable water is delivered to you. We recommend that you discuss the information in this notice with members of your family to ensure that all family members are prepared should water outages or low water pressure occur.

APPENDIX 3

Date:

BOIL WATER ORDER

BOIL YOUR WATER BEFORE USING

Due to the recent event [e.g., water outage, power outage, flood, fire, earthquake or other emergency situation], the Hawaii Department of Health Safe Drinking Water Branch, and Hawaiian Shores Water System are advising residents of the Hawaiian Shores Recreation Estates to use boiled tap water or bottled water for drinking and cooking purposes as a safety precaution.

DO NOT DRINK THE WATER WITHOUT BOILING IT FIRST. Bring all water to a boil, ***let it boil for one (1) minute***, and let it cool before using, or use bottled water. Boiled or bottled water should be used for drinking and food preparation ***until further notice***. *Boiling kills bacteria and other organisms in the water. [or This is the preferred method to assure that the water is safe to drink.]*

Optional alternative to include for prolonged situations where it fits.

- An alternative method of purification for residents that do not have gas or electricity available is to use fresh liquid household bleach (Clorox®, Purex®, etc.). **To do so, add 8 drops (or 1/4 teaspoon) of bleach per gallon of clear water, mix thoroughly, and allow to stand for 30 minutes before using.** A chlorine-like taste and odor will result from this purification procedure and is an indication that adequate disinfection has taken place.
- Water purification tablets may also be used by following the manufacturer's instructions.
- Potable water is available at the following locations:
 1. Highway 130 in Pahoa at mile marker 9.
 2. Highway 130 in Kalapana near Ahia Rd.
 3. Keaau Transfer Station on Highway 130 at mile marker 2.

Please bring a clean water container (5 gallons maximum capacity).

We will inform you when tests show no bacteria and you no longer need to boil your water. We anticipate resolving the problem within [estimated time frame]. Resolving this problem will vary based on the nature of the event or disaster, but you will be informed as soon as possible when the water is safe to drink.

For more information call:

Water Utility contact: Mark Prescott, DSO of Record 808 756-5788.

Hawaii Department of Health – Safe Drinking Water Branch- Hilo Office at [(808) 933-0401

Hawaii Department of Health – Safe Drinking Water Branch- Honolulu Office at: [(808) 586-4258].

This notice is being sent to you by Hawaiian Shores Water System. Hawaii Public Water System ID # 156. Date Distributed: [date].

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

UNSAFE WATER ALERT

**Hawaiian Shores Water System water is possibly contaminated
with [an unknown substance]**

DO NOT DRINK YOUR WATER

Failure to follow this advisory could result in illness.

An unknown substance has been added to the drinking water supplied by the Hawaiian Beaches Water Company due to a recent [intrusion; break-in] at [one of the wells; our treatment plant; storage tank; specific facility]. The Hawaii Department of Health – Safe Drinking Water Branch, and Hawaiian Shores Water System are advising residents of Hawaiian Shores Recreational Estates Subdivision, Pahoia 96778] to NOT USE THE TAP WATER FOR DRINKING AND COOKING UNTIL FURTHER NOTICE.

What should I do?

- **DO NOT DRINK YOUR TAP WATER---USE ONLY BOTTLED WATER. Bottled water should be used for all drinking (including baby formula and juice), brushing teeth, washing dishes, making ice and food preparation until further notice.**
- **DO NOT TRY AND TREAT THE WATER YOURSELF.** Boiling, freezing, filtering, adding chlorine or other disinfectants, or letting water stand will not make the water safe.

OPTIONS

- Potable water is available at the following locations:
 1. Highway 130 in Pahoia at mile marker 9.
 2. Highway 130 in Kalapana near Ahia Rd.
 3. Keaau Transfer Station on Highway 130 at mile marker 2.

Please bring a clean water container (5 gallons maximum capacity).

We will inform you when tests show that the water is safe again. We expect to resolve the problem within [estimated time frame]. Resolving this problem will vary based on the nature of the event or disaster, but you will be informed as soon as possible when the water is safe to drink.

For more information call:

Water Utility contact: Mark Prescott, DSO of Record 808 756-5788.

Department of Health SDWB Hilo at: (808) 933-0401

Department of Health SDWB Honolulu: (808) 586-4258.

This notice is being sent to you by Hawaiian Shores Water System. Hawaii Public Water System ID # 156. Date Distributed: [date]. Please share this information with all other people who receive this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand.

APPENDIX 5

Date:

UNSAFE WATER ALERT

Hawaiian Shores Water System water is possibly contaminated with [an unknown substance]

DO NOT USE YOUR WATER

Failure to follow this advisory could result in illness.

An unknown substance has been added to the drinking water supplied by the Hawaiian Beaches Water Company due to a recent [intrusion; break-in] at [one of the wells; our treatment plant; storage tank; specific facility]. The Hawaii Department of Health Safe Drinking Water Branch, and Hawaiian Beaches Water Company Water System are advising residents of Hawaiian Beaches, Pahoia Hi 96778 to NOT USE THE TAP WATER FOR DRINKING, COOKING, HAND WASHING, OR BATHING UNTIL FURTHER NOTICE.

What should I do?

- **DO NOT USE YOUR TAP WATER---USE ONLY BOTTLED WATER. Bottled water should be used for all drinking (including baby formula and juice), brushing teeth, washing dishes, making ice, food preparation and bathing until further notice.**
- **DO NOT TRY AND TREAT THE WATER YOURSELF.** Boiling, freezing, filtering, adding chlorine or other disinfectants, or letting water stand will not make the water safe.

OPTIONS

- Potable water is available at the following locations:
 1. Highway 130 in Pahoia at mile marker 9.
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For more information call:

Water Utility contact: [Mark Prescott, DSO of Record 808 756-5788.](#)

Department of Health SDWB Hilo: [\(808\) 933-0401](#)

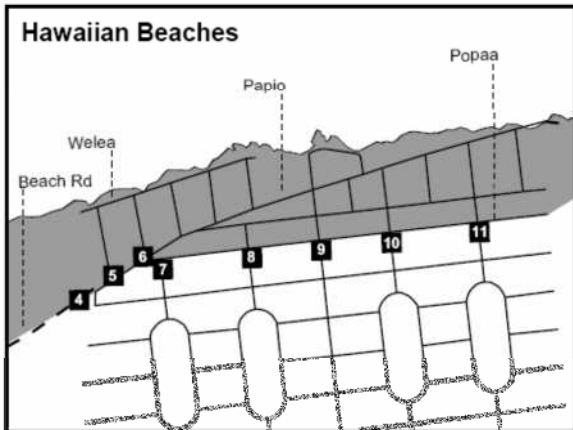
Department of Health SDWB Honolulu: [\(808\) 586-4258.](#)

This notice is being sent to you by Hawaiian Shores Water System Hawaii Public Water System ID # 156.

Date Distributed: [date] Please share this information with all other people who receive this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand.

APPENDIX 6

TSUNAMI EVACUATION HAWAII MAP 3: PUNA (Part 1)



Manned Roadblocks

1 Kaloli/2nd Ave (Aloe)	10 Popaa/Puni Lanai E
2 Paradise/2nd Ave (Aloe)	11 Popaa East/Puni Lapaa E
3 Makuu/2nd Ave (Aloe)	12 Hwy 132/Beach Rd
4 Puna Parkway/Beach Rd	13 Hwy 132/Hwy 137
5 Puna Parkway/Alulepe	14 Hwy 137/Kapoho Beach Lots Rd
6 Puna Parkway/Papio	15 Hwy 137/Kapoho Kai Rd
7 Popaa/Puni Kahakai E	16 Kapoho Kai Rd/Hwy 137
8 Popaa/Puni Paka E	17 Hwy 137/Pohoki Rd
9 Popaa/Kahakai Blvd	18 Hwy 137/Ophiako Rd

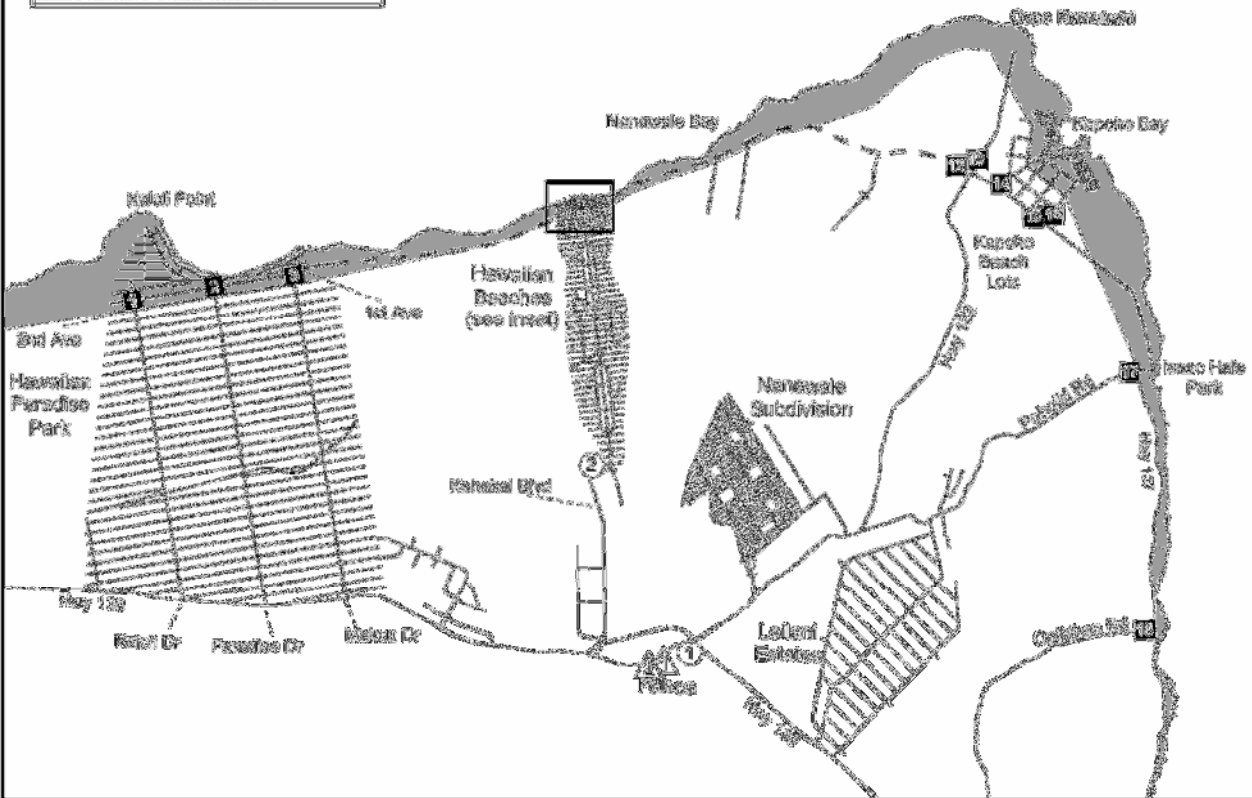
Emergency Response Agencies

- ▲ Pahaia Fire Station
- ▲ Pahaia Police Station

Public Facilities

- ① Pahaia Schools
- ② Kamaopolo Elementary School

--- Unimproved Road
 ——— Paved Road



EVACUATE ALL SHADED AREAS

APPENDIX 7

MUTUAL AID AGREEMENT

A. This Agreement is made and entered into by the undersigned water utilities. By executing this Agreement, these water utilities have manifested their intent to participate in a Program for Mutual Aid and Assistance.

ARTICLE I. **PURPOSE**

B. Recognizing that emergencies may require assistance in the form of personnel, equipment, and supplies, the signatory utilities established a Mutual Aid and Assistance Program. Through the Mutual Aid and Assistance Program, Members coordinate response activities and share resources during emergencies. This Agreement sets forth the procedures and standards for the administration of the Mutual Aid and Assistance Program.

ARTICLE II. **DEFINITIONS**

C. Emergency-A natural or manmade event that is, or is likely to be, beyond the control of the services, personnel, equipment, and facilities of a Mutual Aid and Assistance Program Member.

D. Member-Any public or private Water Utility that manifests intent to participate in the Mutual Aid and Assistance Program by executing this Agreement.

E. Authorized Official-An employee of a Member that is authorized by the Member's governing board or management to request assistance or offer assistance under this Agreement.

F. Requesting Member-A Member who requests assistance under the Mutual Aid and Assistance Program.

G. Responding Member-A Member that responds to a request for assistance under the Mutual Aid and Assistance Program.

H. Period of Assistance-A specified period of time when a Responding Member assists a Requesting Member. The period commences when personnel, equipment, or supplies depart from a Responding Member's facility and ends when the resources return to their facility (portal to portal). All protections identified in the agreement apply during this period. The specified Period of Assistance may occur during response to or recovery from an emergency, as previously defined.

ARTICLE III **REQUESTS FOR ASSISTANCE**

I. *Member Responsibility*: Members shall identify an Authorized Official and alternates; provide contact information including 24-hour access; and maintain resource information made available by the utility for mutual aid and assistance response.

J. In the event of an Emergency, a Member's Authorized Official may request mutual aid and assistance from a participating Member. Requests for assistance can be made orally or in writing. When made orally, the request for personnel, equipment, and supplies shall be prepared in writing as soon as practicable. Requests for assistance shall be directed to the Authorized Official of the participating Member.

K. *Response to a Request for Assistance:* After a Member receives a request for assistance, the Authorized Official evaluates whether resources are available to respond to the request for assistance. Following the evaluation, the Authorized Representative shall inform, as soon as possible, the Requesting Member whether it has the resources to respond. If the Member is willing and able to provide assistance, the Member shall inform the Requesting Member about the type of available resources and the approximate arrival time of such assistance.

L. *Discretion of Responding Member's Authorized Official:* Execution of this Agreement does not create any duty to respond to a request for assistance. When a Member receives a request for assistance, the Authorized Official shall have absolute discretion as to the availability of re- sources. An Authorized Member's decisions on the availability of resources shall be final.

ARTICLE M. RESPONDING MEMBER PERSONNEL

M. *Control:* Responding Member personnel shall remain under the direction and control of the Responding Member. The Requesting Member's Authorized Official shall coordinate response activities with the designated supervisor(s) of the Responding Member(s).

N. *Food and Shelter:* The Requesting Member shall supply reasonable food and shelter for Re- sponding Member personnel. If the Requesting Member fails to provide food and shelter for Responding personnel, the Responding Member's designated supervisor is authorized to secure the resources necessary to meet the needs of its personnel. The cost for such resources must not exceed the State per diem rates for that area. The Requesting Member remains responsible for reimbursing the Responding Member for all costs associated with providing food and shelter,

O. f such resources are not provided.

P. *Licenses and Permits:* To the extent permitted by law, Responding Member personnel who hold licenses, certificates, or permits evidencing professional, mechanical, or other skills shall be allowed to carry out activities and tasks relevant and related to their respective credentials during the specified Period of Assistance.

Q. *Right to Withdraw:* The Responding Member's Authorized Official retains the right to withdraw some or all of its resources at any time. Notice of intention to withdraw must be communicated to the Requesting Member's Authorized Official as soon as possible.

ARTICLE V. COST REIMBURSEMENT

R. Unless otherwise mutually agreed in whole or in part, the Requesting Member shall reimburse the Responding Member for each of the following categories of costs incurred while providing aid and assistance during the specified Period of Assistance.

S. *Personnel:* Responding Member personnel are to be paid for work completed during a specified Period of Assistance according to the terms provided in their employment contracts or other conditions of employment. The Responding Member designated supervisor(s) must

Keep accurate records of work performed by personnel during the specified Period of Assistance. Re- requesting Member reimbursement to the Responding Member must consider all personnel costs, including salaries or hourly wages, costs for fringe benefits, and indirect costs.

T. *Equipment:* The Requesting Member shall reimburse the Responding Member for the use of equipment during a specified Period of Assistance. As a minimum, rates for equipment use must be based on the Federal Emergency Management Agency's (FEMA) Schedule of Equipment Rates. If a Responding Member uses rates different from those in the FEMA Schedule of Equipment Rates, the Responding Member must provide such rates in writing to the Requesting Member prior to supplying resources. Mutual agreement on which rates are used must be reached in writing prior to dispatch of the equipment. Reimbursement for equipment not referenced on the FEMA Schedule of Equipment Rates must be developed based on actual recovery of costs.

U. *Materials and Supplies:* The Requesting Member must reimburse the Responding Member in kind or at actual replacement cost, plus handling charges, for use of expendable or non-returnable supplies. The Responding Member must not charge direct fees or rental charges to the Requesting Member for other supplies and reusable items that are returned to the Responding Member in a clean, damage-free condition. Reusable supplies that are returned to the Responding Member with damage must be treated as expendable supplies for purposes of cost reimbursement.

V. *Payment Period:* The Responding Member must provide an itemized bill to the Requesting Member for all expenses it incurred as a result of providing assistance under this Agreement. The Requesting Member must send the itemized bill not later than ninety (90) days following the end of the Period of Assistance. The Requesting Member must pay the bill in full on or before the forty-fifth (45th) day following the billing date. Unpaid bills become delinquent upon the forty- sixth (46th) day following the billing date, and, once delinquent, the bill accrues interest at the rate of prime, as reported by the *Wall Street Journal*, plus two percent (2%) per annum.

ARTICLE VI. DISPUTES

W. Any controversy or claim arising out of, or relating to, this Agreement, including, but not limited to, alleged breach of the Agreement, shall be settled by arbitration in accordance with the Rules of the American Arbitration Association. Any court of competent jurisdiction may enter the judgment rendered by the arbitrators as final judgment that is binding on the parties.

ARTICLE VII. REQUESTING MEMBER'S DUTY TO INDEMNIFY

X. The Requesting Member shall assume the defense of, fully indemnify and hold harmless, the Responding Member, its officers and employees, from all claims, loss, damage, injury, and liability of every kind, nature, and description, directly or indirectly arising from Responding Member's work during a specified Period of Assistance. The scope of the Requesting Member's duty to indemnify includes, but is not limited to, suits arising from, or related to, negligent or wrongful use of equipment or supplies on loan to the Requesting Member, or faulty workmanship or other negligent acts, errors, or omissions by Requesting Member or the Responding Member personnel.

The Requesting Member's duty to indemnify is subject to, and shall be applied consistent with, the conditions set forth in Article VIII.

ARTICLE VIII
SIGNATORY INDEMNIFICATION

In the event of a liability, claim, demand, action, or proceeding of whatever kind or nature arising out of a specified Period of Assistance, the Members who receive and provide assistance shall indemnify and hold harmless those Members whose involvement in the transaction or occurrence that is the subject of such claim, action, demand, or other proceeding is limited to execution of this Agreement.

ARTICLE IX.
WORKER'S COMPENSATION CLAIMS

The Responding Member is responsible for providing worker's compensation benefits and administering worker's compensation. The Requesting Member shall reimburse the Responding Member for all costs-benefits, and expenses associated with worker's compensation and other claims that arise from or are related to providing assistance under this Agreement. Reimbursement shall be made on a quarterly basis, or on other terms mutually agreed upon by the Requesting Member and Responding Member.

ARTICLE X.
NOTICE

A Member who becomes aware of a claim or suit that in any way, directly or indirectly, contingently or otherwise, affects or might affect other Members of this Agreement shall provide prompt and timely notice to the Members who may be affected by the suit or claim. Each Member reserves the right to participate in the defense of such claims or suits as necessary to protect its own interests.

ARTICLE XI.
INSURANCE

Members of this Agreement shall maintain an insurance policy that covers activities that it may undertake by virtue of membership in the Mutual Aid and Assistance Program. The scope of the policy must include, at a minimum, coverage for employee faulty workmanship and other negligent acts, errors, or omissions and coverage for meeting the indemnity conditions provided in Articles XII and XIII.

ARTICLE XII.
EFFECTIVE DATE

This Agreement shall be effective after the Water Utility's authorized representative executes the Agreement and the applicable Members receive the Agreement.

ARTICLE XIII.
WITHDRAWAL

A Member may withdraw from this Agreement by providing written notice of its intent to withdraw to the applicable Members. Withdrawal takes effect 30 days after the appropriate officials receive notice.

**ARTICLE XIV.
PRIOR AGREEMENTS**

This Agreement supersedes all prior Agreements between Members to the extent that such prior Agreements are inconsistent with this Agreement.

**ARTICLE XV.
PROHIBITION ON THIRD PARTIES AND ASSIGNMENT OF RIGHTS/DUTIES**

This Agreement is for the sole benefit of the Members and no person or entity must have any rights under this Agreement as a third-party beneficiary. Assignments of benefits and delegations of duties created by this Agreement are prohibited and must be without effect.

Now, therefore, in consideration of the covenants and obligations set forth in this Agreement, the Water Utility listed here manifests its intent to be a Member of the Mutual Aid and Assistance Program for Water Utilities by executing this Agreement on this 4th day of August 2008.

Water Utility: Hawaiian Paradise Water Company & Hawaiian Sports Comm. Assn.

By: K Prescott
Title: President
Katharine Prescott
Please Print Name

By: Campbell Martin
Title: General Manager
CAMPBELL MARTIN
Please Print Name

By: Mark Prescott
Title: Vice President
MARK PRESCOTT
Please Print Name

By: _____
Title: _____

Please Print Name

By: _____
Title: _____

Please Print Name

By: _____
Title: _____

Please Print Name