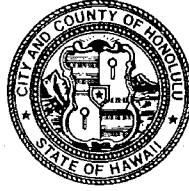


DEPARTMENT OF ENVIRONMENTAL SERVICES  
**CITY AND COUNTY OF HONOLULU**

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KIRK CALDWELL  
MAYOR



June 3, 2014

LORI M.K. KAHIKINA, P.E.  
DIRECTOR

TIMOTHY H. HOUGHTON  
DEPUTY DIRECTOR

ROSS S. TANIMOTO, P.E.  
DEPUTY DIRECTOR

IN REPLY REFER TO:  
RD 14-024

Mr. Ronald Heller, Chairperson  
Land Use Commission  
Department of Business, Economic Development & Tourism  
State of Hawaii  
235 South Beretania Street, Room 406  
Honolulu, Hawaii 96804

(Ms. Kaiulani K. Sodaro, Chair  
Planning Commission  
c/o Department of Planning and Permitting  
City and County of Honolulu  
650 South King Street, 7<sup>th</sup> Floor  
Honolulu, Hawaii 96813)


Dear Mr. Heller (Ms. Sodaro):

Subject: Docket No. SP09-403  
New Special Use Permit  
Waimanalo Gulch Sanitary Landfill

In accordance with the State Land Use Commission Order Adopting the City and County of Honolulu Planning Commission's Findings of Fact, Conclusions of Law, and Decision and Order with Modifications, the attached Fourth Annual Report is submitted for your information. This report covers the period from June 2013 through May 2014.

The report is also being submitted to the Planning (Land Use) Commission.

Sincerely,

  
Lori M.K. Kahikina, P.E.  
Director

Attachment

LAND USE COMMISSION  
CITY AND COUNTY OF HONOLULU  
2014 JUN 12 P 1:28

**FOURTH ANNUAL REPORT**

**STATUS OF ACTIONS TAKEN TO COMPLY WITH THE STATE LAND USE  
COMMISSION'S ORDER DATED OCTOBER 2, 2009  
AND  
STATUS OF OPERATIONS  
WAIMANALO GULCH SANITARY LANDFILL**

**Prepared For:**

**Land Use Commission  
State of Hawaii**

**Planning Commission  
City and County of Honolulu**

**Prepared By:**

**Department of Environmental Services  
City and County of Honolulu**

**June 3, 2014**

2014 JUN 12 P 1:28

LAND USE COMMISSION  
STATE OF HAWAII

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## PREFACE

This report was prepared in accordance with the State of Hawaii Land Use Commission's ("LUC") Order Adopting the City and County of Honolulu Planning Commission's Findings of Fact, Conclusions of Law, and Decision and Order with Modifications, dated October 2, 2009 ("LUC Order"). Under Condition 6 of the LUC Order, the Applicant (Department of Environmental Services, City and County of Honolulu, hereinafter "ENV") is required to submit annual reports to the Planning Commission of the City and County of Honolulu ("Planning Commission") and the LUC regarding the following: (1) the status of identifying and developing new landfill sites on Oahu to supplement or replace the Waimanalo Gulch Sanitary Landfill ("WGSL"); (2) the WGSL operations; and (3) ENV's compliance with the conditions imposed by the LUC Order. This report shall also address ENV's efforts to use alternative technologies as appropriate, and to seek beneficial re-use of stabilized, dewatered sewage sludge.

This is the fourth report and covers the period from June 2013 through May 2014, or as otherwise stated.

## **STATUS OF IDENTIFYING AND DEVELOPING NEW LANDFILL SITES ON OAHU**

### 1. General

Condition 4 of the LUC Order requires that, on or before November 1, 2010, ENV shall begin to identify and develop one or more new landfill sites that shall either replace or supplement the WGSL.

### 2. Current Status

The first meeting of the Landfill Advisory Committee was held on January 20, 2011, and subsequent meetings were held on February 10, March 10, March 31, May 12, July 19, November 8, 2011 and February 1, March 16, and April 20, 2012. The Landfill Advisory Committee's final report was completed on September 25, 2012. All Committee meetings were open to the public and to public comment. Handouts provided to the Landfill Advisory Committee, the Group Memory of each meeting, and the final report are posted online at [www.opala.org](http://www.opala.org).

In the final report, 11 potential sites were identified and ranked based on community criteria. The City's consultant is continuing to further review and analyze the sites based on the following technical and engineering considerations: capacity, cost, feasibility, environmental impact, land ownership – costs and ability to acquire, capacity and infrastructure requirements, logistics and waste transportation, development costs, capacity projections for current landfills – WGSL/PVT, and a timetable for WGSL/new landfill development/construction.

## STATUS OF LANDFILL OPERATIONS

1. Tonnage

Over the period beginning June 1, 2013, through May 31, 2014, the Waimanalo Gulch Landfill received the following amounts of material:

	June 1, 2013 Through <u>May 31, 2014</u>
H-POWER Ash.....	203,553 tons
H-POWER Residue.....	50,666 tons
Municipal Solid Waste (MSW).....	80,755 tons

2. Current Status of WGSL

Activities conducted during the reporting period include general site excavation and cell construction in the expansion area, construction of the final cap over the old ash cells located at the front of the landfill, and MSW landfilling in Cells E-5, E-6 and E-7 and ash landfilling in Cell E-8.

Excavation of Cell E-9 is expected to be completed by March 2015, after which liner placement in the final cell in the expansion area (Cell E-9) will commence. Closure of the original ash monofill, located at the base of the landfill, began in November 2013 and is expected to be completed in mid-2014.

3. Landfill Expansion Permits

a. Solid Waste Permit

The final solid waste permit for the proposed lateral expansion was approved by the State of Hawaii, Department of Health (DOH) on June 4, 2010. General site excavation, new cell construction, and drainage improvements are ongoing.

b. Special Use Permit

Condition 14 of the current SUP provided that WGSL stop accepting MSW for disposal as of July 31, 2012. The City filed an appeal to the Supreme Court on February 22, 2012 to reverse the State Land Use Commission's (LUC's) imposition of Condition No. 14, arguing that the LUC had arbitrarily and capriciously imposed this condition contrary to its own findings that established

the continuing need to dispose of municipal solid waste at WGSL beyond July 31, 2012.

On June 28, 2011, ENV filed a SUP Amendment Application with the City Department of Planning and Permitting, to delete Condition No. 14 of the SUP, which would allow WGSL to continue accepting municipal solid waste until the landfill reaches its capacity as permitted by the State Department of Health.

The City and County of Honolulu Planning Commission (Planning Commission) convened a public hearing on October 5, 2011, to consider ENV's application to delete Condition No. 14 of the SUP. The Commission heard public testimonies and granted petitions to intervene in the SUP proceeding to Ko Olina Community Association, Maile Shimabukuro, and Schnitzer Steel Hawaii Corp. With the granting of the petitions to intervene, the matter proceeded as a contested case. A pre-hearing conference to discuss procedural and other matters in the contested case was held on October 12, 2011. A contested case hearing began on December 7, 2011, with opening statements given by ENV and interveners. The contested case hearing continued on January 11, 25, February 8, March 7, 14, April 4, 11, 23 and May 25, 2012. On May 25, 2012, the Commission stayed the matter for six (6) months in light of the Hawaii Supreme Court's (Supreme Court's) decision to strike Condition No. 14 of the SUP described below.

On May 4, 2012, the Supreme Court ruled in favor of the City and struck down Condition No. 14. The Supreme Court further ordered that the matter be remanded to the Circuit Court and the LUC for action on the SUP consistent with the Supreme Court decision. The LUC convened on July 5, 2012, to discuss procedural options only, in light of the Supreme Court remand and stayed Commission proceeding.

Upon request by ENV, the LUC directed the parties to file written briefs regarding the proper procedural steps. ENV argued that the case decided by the Supreme Court remain with the LUC for decision-making. The interveners argued to remand the Supreme Court case back to the Planning Commission with a request to consolidate the amendment application and the Supreme Court case. The LUC decided at its meeting on September 14, 2012, to remand the Supreme Court case to the Planning Commission with a recommendation to consolidate the two matters. On December 19, 2012, the Planning Commission continued its consideration of the LUC request to consolidate the two cases to allow the incoming City administration to weigh in on the matter and the possibility of a joint recommendation from the parties. On February 20, 2013, the Planning Commission again continued its consideration of the LUC request to consolidate based upon the parties' representation that they intended to file a joint recommendation to the Planning Commission regarding both the consolidation and the subject matter of the remand.



Per a request by the LUC, a public hearing was held on May 16, 2014, to update the LUC on the status of action on the SUP. ENV provided a power point presentation of the City's progress to further divert waste from the landfill. The LUC requested that the City provide progress reports every other month, beginning in mid July 2014, on the parties' progress in negotiating a joint recommendation to the Planning Commission.

The landfill will continue operations under the current SUP while the deadline for receipt of MSW is resolved by the Planning Commission and the LUC.

## COMPLIANCE WITH CONDITIONS OF ORDER

The LUC adopted the Planning Commission's Findings of Fact, Conclusions of Law, And Decision and Order dated August 4, 2009, as its own Findings of Fact, Conclusions of Law, And Decision and Order, subject to sixteen (16) conditions. The general description and status of each condition is as follows:

Condition No.	Description
1	<p><b>The Applicant shall obtain all necessary approvals from the State Department of Health (DOH), Department of Transportation, Commission on Water Resources Management, and Board of Water Supply for all onsite and offsite improvements involving access, storm drainage, leachate control, water, well construction, and wastewater disposal.</b></p> <p><u>Status:</u> All applicable permits/approvals have been obtained.</p>
2	<p><b>In accordance with Chapter 11-60.1 "Air Pollution Control," Hawaii Administrative Rules, the Applicant shall be responsible for ensuring that effective dust control measures during all phases of development, construction, and operation of the landfill expansion are provided to minimize or prevent any visible dust emission from impacting surrounding areas. The Applicant shall develop a dust control management plan that identifies and addresses all activities that have a potential to generate fugitive dust.</b></p> <p><u>Status:</u> Dust control measures and management plan have been provided for as part of the Solid Waste Management Permit issued by the DOH.</p>
3	<p><b>The City and County of Honolulu shall indemnify and hold harmless the State of Hawaii and all of its agencies and/or employees for any lawsuit or legal action relating to any groundwater contamination and noise and odor pollution relative to the operation of the landfill.</b></p> <p><u>Status:</u> So noted.</p>
4	<p><b>On or before November 1, 2010, the Applicant shall begin to identify and develop one or more new landfill sites that shall either replace or supplement the WGSL. The Applicant's effort to identify and develop such sites shall be performed with reasonable diligence, and the Honolulu City Council is encouraged to work cooperatively with the Applicant's efforts to select a new landfill site on Oahu. Upon the selection of a new landfill site or sites on Oahu, the Applicant shall provide written notice to the Planning Commission. After receipt of such written notice, the Planning Commission shall hold a public hearing to reevaluate 2008/SUP-2 (SP09-403) is appropriate at that</b></p>

Condition No.	Description
	<p><b>time. The Planning Commission shall make a recommendation to the Land Use Commission.</b></p> <p><u>Status:</u> See Status of Identifying and Developing New Landfill Sites on Oahu of this report.</p>
5	<p><b>The Applicant shall continue its efforts to use alternative technologies to provide a comprehensive waste stream management program that includes H-POWER, plasma arc, plasma gasification and recycling technologies, as appropriate. The Applicant shall also continue its efforts to seek beneficial reuse of stabilized, dewatered sewage sludge.</b></p> <p><u>Status:</u> See section on Alternative Technologies of this report.</p>
6	<p><b>The Applicant shall provide, without any prior notice, annual reports to the Planning Commission and the Land Use Commission regarding the status of identifying and developing new landfill sites on Oahu, the WGSL's operations, and Applicant's compliance with the conditions imposed herein. The annual reports also shall address the Applicant's efforts to use alternative technologies, as appropriate, and to seek beneficial re-use of stabilized, dewatered sewage sludge. The annual reports shall be submitted to the Planning Commission and Land Use Commission on June 1 of each year subsequent to the date of this Decision and Order.</b></p> <p><u>Status:</u> Subsequent reports will be submitted in June of each year.</p>
7	<p><b>Closure Sequence "A" for the existing landfill cells at WGSL as shown on Exhibit "A12" must be completed, and final cover applied, by December 31, 2012.</b></p> <p><u>Status:</u> Closure Sequence "A" was commenced in June 2012 and the final cover was applied and substantially completed in December 2012.</p>
8	<p><b>WGSL shall be operational only between the hours of 7:00 a.m. and 4:30 p.m. daily, except that ash and residue may be accepted at the Property 24 hours a day.</b></p> <p><u>Status:</u> The Solid Waste Management Permit issued by DOH requires that landfill operations be confined to between the hours of 7:00 a.m. and 4:30 p.m. Permission to extend hours to accommodate refuse loads during H-POWER outages shall be obtained from DOH on an as-needed basis.</p>

Condition No.	Description
9	<p><b>The Applicant shall coordinate construction of the landfill cells in the expansion area and operation of WGSL with Hawaiian Electric Company (HECO), with respect to required separation of landfill grade at all times and any accessory uses from overhead electrical power lines.</b></p> <p><u>Status:</u> Coordination with HECO will be done to ensure that landfill construction and operations are adequately separated from overhead electrical power lines.</p>
10	<p><b>The operations of the WGSL under 2008/SUP-2 (SP09-403) shall be in compliance with the requirements of Section 21-5.680 of the Revised Ordinances of the City and County of Honolulu 1990, to the extent applicable, and any and all applicable rules and regulation of the State Department of Health.</b></p> <p><u>Status:</u> Revised Ordinances of Honolulu § 21-5.680 is inapplicable to the WGSL as that Property is a public use and said ordinance therefore does not impact operations at WGSL. The operations of the WGSL are in compliance with any and all applicable rules and regulations of the State Department of Health.</p>
11	<p><b>The Planning Commission may at any time impose additional conditions when it becomes apparent that a modification is necessary and appropriate.</b></p> <p><u>Status:</u> So noted.</p>
12	<p><b>Enforcement of the conditions to the Planning Commission's approval of 2008/SUP-2 (SP09-403) shall be pursuant to the Rules of the Planning Commission, including the issuance of an order to show cause why 2008/SUP-2 (SP09-403) should not be revoked if the Planning Commission has reason to believe that there has been a failure to perform the conditions imposed herein by this Decision and Order.</b></p> <p><u>Status:</u> So noted.</p>
13	<p><b>The Applicant shall notify the Planning Commission and Land Use Commission of termination of the use of the Property as a landfill for appropriate action or disposition of 2008/SUP-2 (SP09-403).</b></p> <p><u>Status:</u> Respective notifications will be made prior to termination of the use of the property as a landfill.</p>

Condition No.	Description
14	<p><b>Municipal solid waste shall be allowed at the WGSL up to July 31, 2012, provided that only ash and residue from H-POWER shall be allowed at the WGSL after July 31, 2012.</b></p> <p><u>Status:</u> The landfill will continue operations under the current SUP while the deadline for receipt of MSW is resolved by the State Land Use Commission. See: 3. Landfill Expansion Permits b. Special Use Permit.</p>
15	<p><b>The Honolulu City Council through the City Administration shall report to the public every three months on the efforts of the City Council and the City Administration in regard to the continued use of the WGSL, including any funding arrangements that are being considered by the City Council and the City Administration.</b></p> <p><u>Status:</u> See Condition 16 Status.</p>
16	<p><b>The City Council and the City Administration shall have a public hearing every three months to report on the status of their efforts to either reduce or continue the use of the WGSL.</b></p> <p><u>Status:</u> On August 3, 2010, the Circuit Court of the First Circuit issued its order modifying this condition by substituting ENV for the City Council and the City Administration. That portion of the order was not appealed. Public hearings are being conducted every 3 months to report on the efforts of ENV in regard to the continued use of the WGSL, including any funding arrangements being considered by the City Council and the City Administration. During the reporting period, 2 public hearings were held at Honolulu Hale on July 15, 2013 and January 27, 2014 and 2 public hearings were held at Kapolei Hale on October 28, 2013 and April 14, 2014. For the 4 hearings held during the period, a grand total of 8 members of the public have attended. On average, 2 members of the public have attended each meeting. ENV publishes public notice of the public hearings in the newspaper and posts notice on <a href="http://opala.org">opala.org</a>. ENV also requested that the Neighborhood Board Commission notify each Neighborhood Board of forthcoming meetings, which has been done. Reports of what occurred during the hearings are also posted online at <a href="http://opala.org">opala.org</a>.</p>

## ALTERNATIVE TECHNOLOGIES

### 1. H-POWER

The H-POWER waste-to-energy facility, operated by Covanta, continues to process over 600,000 tons per year of municipal solid waste. The facility has operated reliably for over twenty years and has disposed of over 14,000,000 tons of municipal solid waste, generating in excess of \$30,000,000 annual net revenues from the sale of electricity, recovered metals and tipping fees, and avoided the importation of 14,000,000 barrels of oil. The original refuse-derived fuel (RDF) facility was upgraded with state of the art air pollution control equipment (fabric filter bag houses) in 2009 and refurbishment of major equipment such as boiler water walls, shredders, and magnets has been ongoing since 2010.

The facility's capacity to process municipal solid waste increased by 50% in 2012 with the addition of a third boiler, which utilizes mass-burn technology. The third boiler opened to commercial operations on August 4, 2012. It now enables the facility to process and burn bulky waste that previously had to be disposed at the landfill. With the addition of the third boiler, H-POWER now plays an even larger role in reducing waste disposal at the landfill. Combined with the expansion of the City's residential curbside recycling program and other efforts to divert waste from the landfill, HPOWER's third boiler will significantly reduce the quantity of MSW disposed at the landfill.

#### a. Sludge

Plans are underway to construct a sewage sludge receiving station at the third boiler that will receive, store, and process wastewater treatment plant (WWTP) sludge currently disposed at the landfill. All permits and financing have been issued for this project. The City issued the NTP in November 2013, establishing a completion by end of 2014. As of May 2014, construction bids have been received and are under review.

#### b. Medical Waste

Despite the fact that treated medical waste (other than medical sharps) may be disposed at H-POWER, treated medical waste is currently disposed at the landfill because it is mixed with medical sharps, which H-POWER will not accept. The City is currently discussing this process with the DOH and medical waste industry (treatment facilities and waste generators) to develop a plan to segregate the medical sharps prior to disposal so that the treated medical waste (other than the medical sharps) can be disposed of at H-POWER.

c. Tires

H-POWER received a conditional variance from DOH to accept used auto tires delivered from refuse convenience centers and bulky collection crews. The variance allows H-POWER to process up to 200 tires per day or 65,000 per year. Beginning June 3, 2014, other City agencies will be allowed to deliver used tires to H-POWER. The variance is in effect until February 28, 2016, which coincides with the expiration of H-POWER's current solid waste management permit. Both permits will be renewed at that time.

d. Process Residue

The City is discussing residue reprocessing options with Covanta to reduce/eliminate residue disposal at the landfill. A plan to capture more of the metal fraction in the process residue is being devised to allow the residue to be re-processed through the third boiler.

2. Sludge Re-use

a. General

The City and County of Honolulu currently operates nine (9) wastewater treatment plants (WWTPs) on Oahu. The percentage of total sewage sludge generated from the nine (9) City WWTPs is as follows:

<b>WWTP</b>	<b>% of Total Sludge</b>
Honouliuli	39.7
Kahuku	1.0
Kailua	8.9
Laie	<1
Paalaa Kai	<1
Sand Island	35.2
Wahiawa	11.5
Waianae	3.2
Waimanalo	<1

b. Current Actions/Efforts to Re-use Sludge

Laie WWTP: Convert green waste mixed with sewage sludge into compost by using the Windrow process.

Sand Island WWTP: Process sewage sludge into fertilizer pellets using the Synagro process. In FY 10, about 29% was disposed at the landfill and 71% was reused. In FY 11, about 20% of the pellets were disposed at the landfill and about 80% was beneficially reused. In FY 12, approximately 12% of the product went to the landfill and about 88% of the product was reused. In FY 13,

approximately 10% of the product went to the landfill and about 90% of the product was reused.

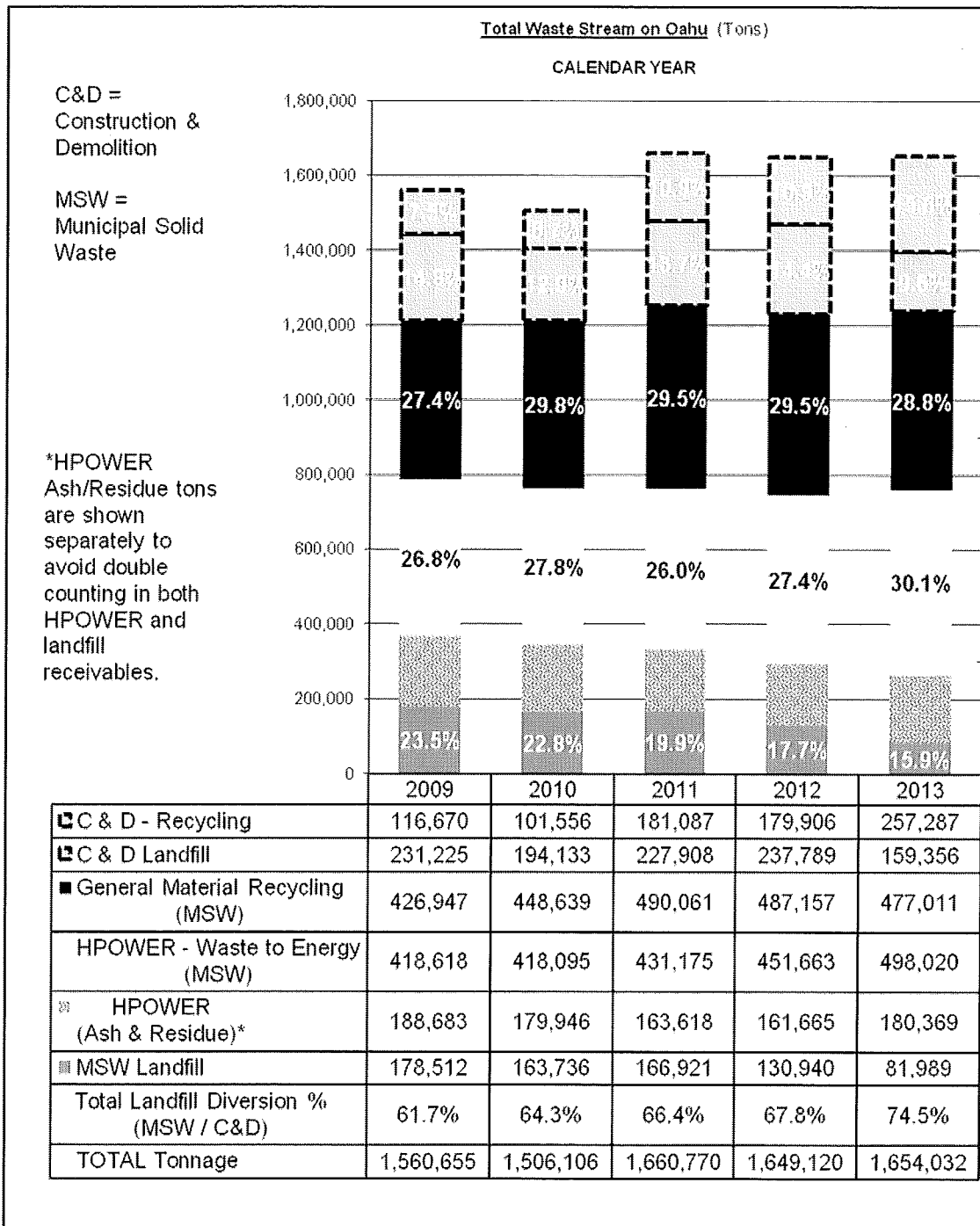
3. Other Request For Proposals (RFPs) for Alternative Waste Disposal Technologies

To further reduce the amount of waste disposed of at the landfill, the City issued an RFP for demonstration waste-to-energy facilities in July 2009 and RFPs for recycling H-POWER residue, fly ash, and bottom ash in March 2010. The City did not receive any responses to these RFPs.



#### 4. Materials Recycling

To present a complete waste flow picture, the most recent available data is for calendar year 2013. Although waste tracking to the landfill and H-POWER is managed every month by ENV, recycling data is provided by commercial recycling companies which are surveyed annually. Recycling data for 2014 will be gathered and compiled during the first quarter of 2015, and an updated chart and analysis will be posted online at [www.opala.org](http://www.opala.org) mid year.



The data in the chart above shows how Oahu's waste has been diverted from landfill through increases in recycling and waste-to-energy. Recycling rates are remaining steady at just under 30% for general material recycling and about 15% for construction and demolition material, while expansions to the H-POWER waste-to-energy facility have enabled WTE to exceed 30%, for a combined total waste landfill diversion rate of almost 75%.

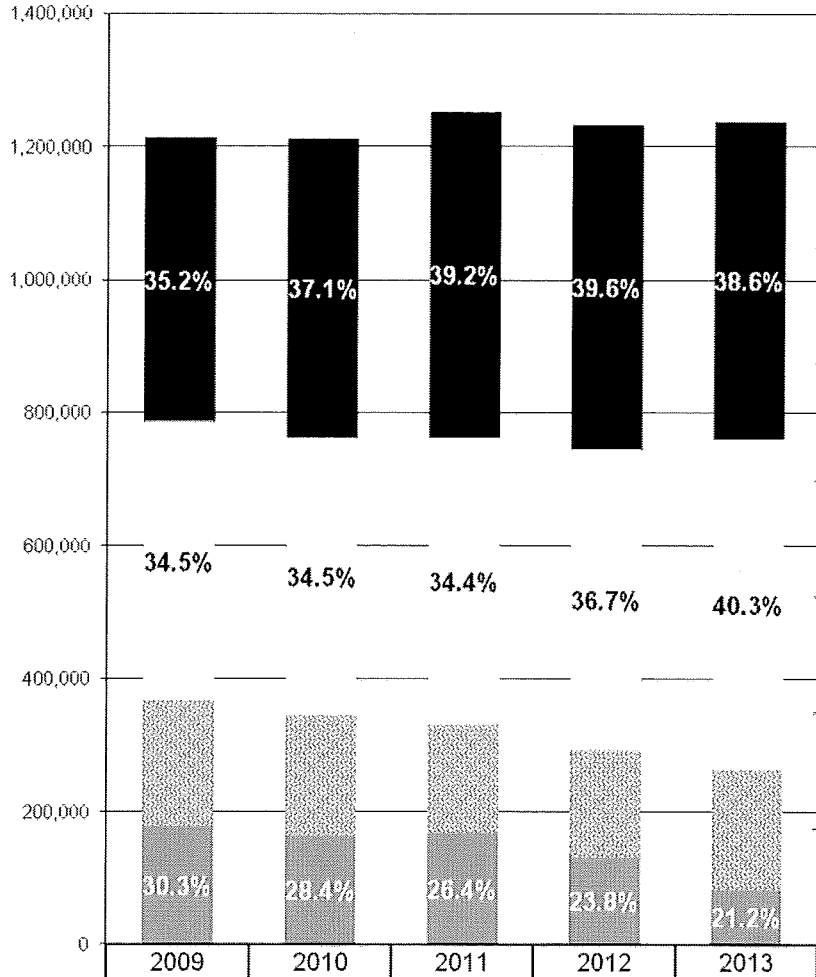
Total waste includes all waste of all types disposed/recycled on Oahu, including construction and demolition waste. There are two landfills on Oahu: the City's Waimanalo Gulch Sanitary Landfill (WGSL), which is designated for MSW, and the private PVT Landfill, which is permitted for construction and demolition waste only. When analyzing municipal solid waste (MSW) only and landfill diversion specific to the WGSL, the landfill diversion rate achieved through recycling and waste-to-energy is over 78% and the general material recycling rate is about 39%. See the chart below for a fuller comparison of diversion rates for WGSL over the most recent five (5) years. Important to note the breakdown of material to the WGSL – of the 21% of material landfilled in 2013, less than 7% was MSW. The rest is ash and residue from H-POWER processing.

**Municipal Solid Waste Stream on Oahu (Tons)**

CALENDAR YEAR

MSW =  
Municipal  
Solid  
Waste

\*HPOWER  
Ash/Residue tons  
are shown  
separately to  
avoid double  
counting in both  
HPOWER and  
landfill  
receivables.



	2009	2010	2011	2012	2013
■ General Material Recycling (MSW)	426,947	448,639	490,061	487,157	477,011
■ HPOWER - Waste to Energy (MSW)	418,618	418,095	431,175	451,663	498,020
⊠ HPOWER (Ash & Residue)*	188,683	179,946	163,618	161,665	180,369
▨ MSW Landfill	178,512	163,736	166,921	130,940	81,989
Total Landfill Diversion % (MSW)	69.7%	71.6%	73.6%	76.2%	78.8%
TOTAL Tonnage (MSW)	1,212,760	1,210,417	1,251,775	1,231,425	1,237,389

*Recycling data:* The tables below provide detail of what was recycled by material type. The City has gathered annual recycling data since 1988 (except for 1989 and 1990). Note the upward trend of general material recycling from approximately 75,000 tons in 1988 to well over 400,000 tons today. Recycling of construction and demolition materials, such as concrete, rock and asphalt, has added more than 200,000 tons to the recycling rates. These C&D recycling rates tend to fluctuate based on the volume and type of construction projects undertaken from year to year.

<b>Year</b>	<b>General Material Recycling</b>	<b>C&amp;D Recycling</b>	<b>Total Recycled</b>
<u>2013</u>	477,011	257,287	734,298
<u>2012</u>	487,159	179,906	667,065
<u>2011</u>	483,707	181,087	664,794
<u>2010</u>	448,639	101,556	550,195
<u>2009</u>	426,947	116,670	543,617
<u>2008</u>	456,876	216,745	673,621
<u>2007</u>	453,282	148,952	602,234
<u>2006</u>	421,072	121,675	542,747
<u>2005</u>	417,669	193,829	611,498
<u>2004</u>	386,338	173,916	560,254
<u>2003</u>	366,639	106,773	473,412
<u>2002</u>	352,699	139,055	491,754
<u>2001</u>	367,300	114,070	481,370
<u>2000</u>	327,710	165,000	492,710
<u>1999</u>	314,075	225,200	539,275
<u>1998</u>	318,690	148,800	467,490
<u>1997</u>	313,394	204,400	517,794
<u>1996</u>	299,574	95,300	394,874
<u>1995</u>	294,340	44,400	338,740
<u>1994</u>	290,412	35,700	326,112
<u>1993</u>	241,600	30,000	271,600
<u>1991</u>	167,152	0	167,152
<u>1988</u>	73,992	0	73,992

**Oahu Recycling 2013**

<b>Material Type</b>	<b>Amount in tons</b>
PAPER	
Corrugated Cardboard	45,235
Newspaper	14,415
Office Paper	12,548
Other Paper	1,326
METALS	
Ferrous (includes autos)	171,143
Non-Ferrous (includes aluminum)	14,016
GLASS	22,934
PLASTIC	5,903
TIRES	12,926
AUTO BATTERIES	2,654
ELECTRONIC SCRAP	2,247
GREEN WASTE (yard trimmings)	104,065
WOOD WASTE/PALLETS	11,436
CONSTRUCTION & DEMOLITION (rock, concrete, asphalt)	257,287
FOOD WASTE	38,466
OTHER REUSE (Goodwill, Salvation Army)	18,235
<b>TOTAL</b>	<b>734,298</b>

**Oahu Recycling 2012**

<b>Material Type</b>	<b>Amount in tons</b>
PAPER	
Corrugated Cardboard	51,382
Newspaper	13,600
Office Paper	11,177
Other Paper	3,537
METALS	
Ferrous (includes autos)	189,722
Non-Ferrous (includes aluminum)	14,679
GLASS	22,616
PLASTIC	6,264
TIRES	13,106
AUTO BATTERIES	7,503
ELECTRONIC SCRAP	2,356
GREEN WASTE (yard trimmings)	97,807
WOOD WASTE/PALLETS	10,145
CONSTRUCTION & DEMOLITION (rock, concrete, asphalt)	179,906
FOOD WASTE	25,845
OTHER REUSE (Goodwill, Salvation Army)	17,420
<b>TOTAL</b>	<b>667,065</b>

The City's efforts to increase residential recycling have continued with the expansions of island-wide curbside recycling, recycling centers, condo recycling assistance programs and budget commitments to support these efforts. Additionally, the City requires commercial sector recycling through mandatory laws established by City ordinance, and provides assistance to businesses to setup and expand their recycling programs.

a. Curbside Recycling

ENV completed the final phase expansion of the fully-automated 3-cart curbside recycling program in May, 2010. There are currently 160,000 homes participating in the program, and capturing material at a rate of 20,000 tons of mixed recyclables and 50,000 tons of green waste per year. In November 2011, the City completed an evaluation of the first year of full operation, which indicated that the program had achieved a 77% capture rate for green waste and 53% capture rate for mixed recyclables. Increased public experience with identifying and sorting recyclables should produce higher results for the mixed recyclables as the program continues to mature. The program continues to be evaluated to identify strategies for improving participation and efficiencies. Additionally, ENV is continuing to look for opportunities to expand recycling to about 20,000 homes that receive manual collection service. These are homes in various areas of the island where 3-cart service is not feasible.

b. HI-5 Plus Recycling Centers

Many recycling companies have expanded the types of materials accepted at HI-5 redemption centers, and now take all of the same materials that residents are able to recycle at the curb, including glass containers, metal cans, plastics 1 and 2, newspaper, and white and colored office paper. Some even take electronic waste. Currently, there are some 60 of these locations around Oahu that offer "HI-5 plus" recycling, and ENV's Recycling staff has been working with the recycling companies to further increase the number of these convenient drop-off centers. The City maintains a list of the recycling centers on [www.opala.org](http://www.opala.org).

c. Condo Recycling Program

The City continues to promote condominium recycling through a program that reimburses condominium properties for costs associated with the start-up of a recycling program, and additionally provides technical assistance, educational materials, wheeled carts and guidance in establishing collection services.



d. Electronic Waste (e-waste)

State law requiring manufacturers to provide take back programs for e-waste went into effect January 1, 2010, and is administered by the DOH. In general, the covered electronics include computers and televisions. Collection and recycling of e-waste has increased, but the law is weak in its requirements for the manufacturers to achieve recovery goals or to provide consumer convenience in take back programs. DOH is looking for ways to strengthen the collection programs and has proposed bills in the three most recent legislative sessions (2012, 2013 and 2014). The most recent versions had been developed with input from a task force of all the state, county and industry stakeholders. ENV will continue to work in collaboration with the DOH and local e-waste recycling companies to support local programs and legislative proposals.

e. Business Recycling Programs

The City continues to provide assistance to commercial sector recycling efforts and to ensure compliance with mandatory recycling policy established in the mid 1990's, which requires office buildings to recycle office paper, bars/restaurants to recycle glass and a variety of food operations to recycle food waste. Disposal site bans/restrictions divert materials from landfill and H-POWER, including green waste, cardboard, metals, tires, auto batteries, e-waste. The City provides technical assistance to businesses for designing and implementing recycling programs through how-to guides, workshops and on-site support, and works collaboratively with the State's Green Business Program.

f. Public Education

Public education regarding recycling is ongoing--distribution of brochures and print materials, opala.org website, WasteLine e-newsletter and annual events including Tour de Trash and Discover Recycling. In October 2009, ENV and Oceanic Time Warner Cable launched "Opalavision" on The Green Channel at Oceanic 332 and online at opala.org. Short stories about the City's recycling initiatives and programs are featured in 3-minute episodes. New episodes are produced annually with an archive of dozens to keep viewers entertained. The format is interactive, supporting 24/7 viewing of all episodes on demand. City ENV supports recycling education for our youth through school recycling projects, classroom activity books and recycling education shows presented by the Honolulu Theatre for Youth. The fourth season of performances featured a theatre presentation that ran in January and February 2014 plus a traveling show to local schools entitled "Sort It Out!" for January 2014. The shows include distribution of Opala IQ Books and educational materials to students and teachers. A fifth season of performances is planned for December 2014 – February 2015. In September 2013, in partnership with Costco, the City installed large 3D displays at all four Costco stores, delivering the message, "Sort It Out

For Recycling And Energy. Nothing Wasted, Nothing To Landfills”, and distributing brochures and a handy list of what to recycle (sticker).

5. Interim Off-island Shipping of Waste

No waste was ever shipped to the mainland due to various problems encountered by Hawaiian Waste Systems LLC (“HWS”), the bidder awarded the contract to ship waste to the mainland. These problems culminated in the U.S. District Court, Eastern District of Washington ruling on August 30, 2010 to enjoin the shipment of waste from Hawaii to Washington or Oregon ports on the Columbia River and/or to the Roosevelt Landfill in Washington. Consequently, the U.S. Department of Agriculture canceled the compliance agreement permits of all Hawaii shippers that might otherwise have enabled the shipment of waste to the mainland. At the point where shipping was no longer possible, HWS had approximately 20,000 tons of baled waste stored at three locations. To dispose of this baled waste, HWS agreed to disassemble the bales, sort the waste and take the burnable waste to H-POWER and the non-burnable waste to the Waimanalo Gulch Landfill.

As of January 2011, approximately 11,000 tons had been taken to H-POWER and 140 tons had been taken to WGSL. On January 6, 2011, there was a fire at the HWS facility that damaged the building in which the waste bales were disassembled and processed. The City, however, continued to work with HWS and DOH to dispose of the remaining bales of waste.

On May 12, 2011, the last bale of waste at the HWS facility was removed and delivered to a City waste disposal facility. Of the original 20,000 tons in its possession, HWS delivered 14,779 tons to H-POWER (76%) and 4,565 (24%) tons to WGSL. HWS was able to extract and recycle 1,525 tons of metal.



## **CONCLUSION**

The foregoing report is submitted in accordance with reporting requirements set forth in the LUC Order dated October 2, 2009. This report focuses on the status of ENV's efforts to identify and develop one or more landfill sites that shall either replace or supplement the WGSL and the 16 Conditions contained in the LUC Order. Also discussed are the further progress of WGSL operations and the City's active efforts to reduce waste volume that is directed to the landfill, such as the expansion of the H-POWER facility and recycling.

The City intends to continue its efforts to ensure proper solid waste management for the people of Oahu, in close coordination with applicable regulatory agencies and decision-makers.