Public Informational Meeting
MSW Landfill Issues

County of Kaua`i
Department of Public Works
Presentation Objectives

- Welcome and Introduction
- Community Concerns
- Responses to Community Concerns
  - Subtitle D Requirements for Landfill Design
  - Mitigation Measures
  - Expanded Waste Diversion
  - Host Community Compensation
- Status of the Kekaha Landfill Lateral Expansion
- Status of the Siting the New Landfill
Community Concerns
Community Concerns

- Groundwater contamination
- Surface water pollution
- Hazardous waste disposal
- Public health and safety
- Natural hazards and emergency response
- Operational impacts (odor, dust, noise, traffic, litter)
- Visual impacts
Community Concerns

- Duration of MSW acceptance at Kekaha Landfill (Cells 1, 2, & 3 provide additional capacity for 12 years of MSW disposal)
- Expand opportunities for recycling
- Long-range plans for clean up of the Phase I landfill and siting of a new landfill
Response to Community Concerns
Responses to Community Concerns

The County proposes to address community concerns through:

• Landfill design –Subtitle D requirements
• Expanded Waste Diversion
• Mitigations to address operational impacts
• Compensation for the host community
• Long-range planning to site a new landfill on Kauai
Subtitle D Requirements
Regulating Landfills

Resource Conservation & Recovery Act (RCRA)

- Siting
- Construction
- Operation
- Closure
- Post Closure
Landfill Design – Subtitle D
Requirements

- Base liner
- Leachate management
- Groundwater monitoring
- Surface water management
- Final cover
- Landfill gas collection
Landfill Design
Design Elements

- Liner
- Leachate Management
- Final Cover
- Surface Water Management
- Monitoring
Design Elements

Liner
Landfill Design – Base Liner

- Non-woven separator geotextile
- 60 mil smooth HDPE geomembrane
- Operation layer
- Granular drainage layer
- Foundation layer
- Prepared subbase grade
- Geosynthetic clay liner
- Non-woven geotextile cushion
- 60 mil textured (both sides) HDPE geomembrane on sideslope
Design Elements

Leachate Management
Landfill Design – Leachate Management

- 12” Granular drainage layer
- Non-woven geotextile
- 24” Operation layer
- 12” Drainage stone layer
- 60 mil HDPE geomembrane
- 8” Dia HDPE perforated leachate collection pipe
- Geosynthetic clay liner
- Non-woven geotextile cushion
Design Elements

Final Cover
Landfill Design – Final Cover

- Slope
- Waste material
- 40 mil geomembrane
- 1-1/2’ cover
- 12” protective cover soil
- 6” vegetative cover soil
- Grading layer
- Intermediate cover
- Rooting zone
- Topsoil
- Geocomposite drainage layer

Dimensions:
- 3’
Design Elements

Surface Water Management
Design Elements

Monitoring
Landfill Design
Groundwater Monitoring Wells

Frequency of Monitoring – 4 times per year
Landfill Design – Landfill Gas
RCRA Acceptance Criteria for Wastes

The Kekaha Landfill is permitted to receive:

- Municipal solid waste
- Construction and demolition waste
- Certain non-hazardous wastes managed under special operating procedures:
  - Sewage sludge
  - Treated medical waste
  - Asbestos materials
  - Petroleum contaminated soils/debris
  - Industrial process wastes
Unacceptable Wastes

- No materials designated as hazardous under 40 CFR Part 261
- No radioactive materials
- No untreated infectious waste
- No bulk liquids
- No wastes banned by DOH regulations and County Ordinance, including recyclable green waste, white goods, and tires
  - Cardboard and metal from Commercial Sources
Expanded Waste Diversion
Expanded Waste Diversion

Variety of programs: www.kauai.gov/recycling

NEW PROGRAMS:

• Kauai Recycles drop bin program added Lawai Site, mixed paper, and plastics to program resulting in 60% increase in usage (avg. up from 80 tons to 130 tons per mo.)
• Enforcement of commercial cardboard ban in June 2007
• Electronics Recycling Event for mixed e-waste from institutions, businesses and residents in September 2008 – collected approx. 100 tons.
Expanded Waste Diversion

• Distributed 1,800 free Home Composting bin each potentially diverting 17 gall/mo, 1,558 lb/yr
• Distributed 10,000 free shopping bags made from recycled plastic – 10,000 more due in and funding for 20,000 additional
• Accept special wastes such as propane cylinders, tires and appliances at transfer stations
Expanded Waste Diversion

• This FY plan to collect residential used cooking oil at Hanapēpē and Līhuʻe Transfer Stations
• This FY plan to increase C&D diversion by drafting an ordinance requiring separation & diversion of recyclable materials
• ISWMP recommends curbside collection of mixed recyclables and green waste, improved business programs and HHW programs as well as PAYT
Host Community Benefits
Host Community Benefits

- Host Community Benefits (HCB’s) is an emerging concept to reduce the losses to all parties in the resolution of landfill siting controversies.
- The objective is to balance the need for safe disposal of solid waste with the sacrifices borne by a solid waste disposal facility’s host community.
- The moral and logical goals of the concept are equity and fairness.
Host Community Benefits

- Already mandated in five states (GA, MA, NJ, PA, WI)
- The cornerstones of Host Community Benefits are *mitigation* and *compensation*
- Variety of mitigation and compensation options
- Unique to each situation
Host Community Benefits

Top Ten HCB Mitigations Nationwide:

1) Water testing/replacement
2) Hire own property appraiser
3) Property value protection
4) Extend public water lines
5) Monitoring well reports
6) Enforce speed limits
7) Control litter
8) Landscaping
9) Restricted operating hours
10) Local inspector
Mitigations to Reduce Nuisance Impacts at Landfills

- Odor control
- Dust control
- Noise
- Traffic control
- Litter control
Mitigation of Visual Impacts

Conceptual Rendering of Post Development Conditions from Farrington Highway/Site Entrance, Photo Index #71

Existing Condition View from Farrington Highway/Site Entrance (May 2008)
Community Participation in Landfill Post-closure Plans

- Potential post-closure uses:
  - Open space/habitat area
  - Park or recreation area
  - Coastal overlook
  - Walking/biking trails
  - Amphitheatre
  - Golf course/driving range
  - Sports field
Host Community Benefits

• Types of host community compensations received nationwide:

  None 52%
  Monetary (per ton of waste) 31%
  Monetary (percent of revenue) 4%
  In-kind gifts 16%
  Free collection, disposal, or recycling 11%
Host Community Benefits

- **Citizens Advisory Committee**
  - Critical to the HCB process
  - Champions citizens’ concerns
  - Diverse membership
    - Educators
    - General citizens
    - County Representative
    - County Council Representative
    - Mayor’s office
    - Landfill operator
Status of the Kekaha Landfill Lateral Expansion Construction Project
Status of the Kekaha Landfill Lateral Expansion

• Phased Expansion
  ◆ Cell 1 Construction
    ▪ Sand Hauling
    ▪ SW Permit
    ▪ Construction NTP
    ▪ Material Certification
    ▪ Cell Construction Certification
  ◆ Cell 2 Permits
  ◆ Cell 2 Construction
Landfill Overview

Phase I
Beneath Cell 3
Closed: Oct 1993

Cell 1
Capacity to: Oct. 2013
Cost: $12.9 M

Cell 2
Capacity to: January 2017
Cost: $9 M

Cell 3 - Conceptual
Capacity: 5.4 Years
Cost: $13 M - $30 M

Phase II
Capacity to: May 2010
Cost: $16.34 M
New Landfill Siting Project
Process to Develop a New Landfill

A new landfill requires 5-7 yrs. development

Time:

1. Complete landfill siting process
2. Prepare initial site report and EIS
3. Land (Use permits & Acquisition)
4. Prepare feasibility report
5. Engineering reports, design, Construction Plans & Specifications
6. Obtain permits
7. Construct landfill Cell & Support Facilities
Status of the Project to Site the New Landfill

• Mayor’s Advisory Committee on Landfill Site Selection (MACLS)
  ✓ Objective, Criteria Based Process
  ✓ Panel of 15 Members Appointed by Mayor Baptiste (3 individuals from each of Kauai’s 5 main districts)
  ✓ Process Managed by RM Towill, Facilitated by Resolutions Hawaii and Staffed by Division of Solid Waste Mgmt.
  ✓ Anticipated Project Duration- 7 Months
  ✓ First Meeting Held on May 6, 2008
Mayor’s Advisory Committee on Landfill Siting

- **West District (Kekaha / Waimea / Hanapēpē)**
  - Jose Bulatao
  - Mary-Jean Buza-Sims
  - Kathleen West-Hurd

- **South District (Kalāheo, Omao, Kōloa)**
  - Mike Curtis
  - Keith Nitta
  - Diana Simao
Mayor’s Advisory Committee on Landfill Siting

- Central (Puhi, Līhuʻe, Hanamaulu)
  - Michael Layosa
  - Ted Inouye
  - Palmer Hafdalh
- East District (Wailua, Kapaʻa, Kealia, Anahola)
  - Ed Kawamura Sr.
  - Ken Ishii
  - George Costa
Mayor’s Advisory Committee on Landfill Siting

- North Shore (Moloaa to Haena)
  - Glen Frazier
  - Gary Pacheco
  - David Sproat
Mayor’s Advisory Committee on Landfill Site Selection (MACLS)

- Considers 7 Sites identified in 2001 and Later Studies Prepared by Earth Tech Inc.
- Allows for Consideration of Additional Sites
- Reviews Up to Date Information for Each Site Considered
- MACLS Determines Community Criteria and Weighting
- Double Blind Scoring Process
- Final Report from the MACLS Will Provide a Ranking of the Sites Considered and a Recommend a Site to Develop the New Landfill
Double Blind Scoring Process

- Ensures that the landfill site is ranked objectively.
- Committee has no knowledge of site locations when applying weighting factors.
- Consultant independently applies scoring system to sites not knowing Committee’s weighting.
Overview of Mayor’s Advisory Committee on Landfill Site Selection (MACLS), Tentative Process

- Meeting 1: Review of all identified sites and reports, and EPA / DOH criteria
- Meeting 2: Begin criteria development
- Meeting 3: Finalization of criteria
- Meeting 4: Refinement of criteria scoring system
- Meeting 5: Presentation of results of application of criteria and reapplication after MACLS weighting is shared
- Meeting 6: Presentation and final report to Mayor
Mayor’s Advisory Committee on Landfill Site Selection (MACLS)

- To Date, No Additional Sites Have Been Identified.
- The 5th of 6 Planned Meetings was conducted on September 16, 2008.
- MACLS completed weighting of Criteria for Ranking Sites.
- Meeting Agendas, Memory for Each Meeting, and Informational Documents Considered by the MACLS are Available on the County Website at http://www.kauai.gov/newlandfillsite
Next Steps

- Public Information
- Determine composition and criteria for the Kekaha Citizen Advisory Committee
- Develop and conduct a Kekaha community survey to determine community concerns and thoughts on HCB
- Conduct additional Kekaha community meetings
- Begin construction of lateral expansion Cell 1
- Complete MACLS Report
Contact Information
Department of Public Works, Solid Waste Division

- Donald Fujimoto
  County Engineer
  241-4993

- Troy Tanigawa
  Environmental Services Management Engineer
  241-4838

- Allison Fraley
  Solid Waste Program Coordinator
  241-4837
Questions?