

Community Meeting on County of Kaua'i Landfill Siting



County of Kaua'i
Department of Public Works
Solid Waste Division

Agenda

1. Introduction and Why the County Needs a New Landfill
2. Agenda and Process
3. What are the Requirements for a EPA RCRA “D” Landfill?
4. What did the Mayor’s Advisory Committee on Landfill Site Selection Do?
5. What are the County’s Requirements for an EIS?
6. Community Comments Regarding Relevant Environmental Issues That Should be Considered in Preparing the EIS
7. Next Steps and Concluding Remarks

Why the County Needs a New Landfill

- Kekaha Landfill has a limited volume of space available. It will eventually become exhausted.
- Current and future proposed steps to improve waste handling are under consideration by the County and includes recycling, reuse, waste incineration, and other alternatives.
- Even with these steps in place, the County ISWMP projects that by 2013 up to 102,200 TPY of solid waste will require landfill disposal.
- Even with recycling and other forms of waste reduction a landfill will still be of vital necessity.

Why the County Needs a New Landfill

- Even with recycling, alternative technologies such as waste incineration, and transshipment, there will still be some forms of waste that cannot be further recycled, reused or transshipped. For these forms of waste a landfill will still be the most viable means of handling Kaua'i's municipal solid waste.
- In the event of a natural or man-induced disaster such as a hurricane, tsunami, or major air transportation accident, for example, there will be the immediate need for waste disposal to aid in the recovery effort.

Why the County Needs a New Landfill

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1 New Landfill Siting (7+ Years)										
2										
3 Remaining Capacity Kekaha Landfill Phase II	[Purple bar from 2008 to 2010]									
4 Kekaha Landfill Lateral Expansion	[Purple bar with arrowheads from 2010 to 2017]									
5 Cell 1 - 3.3 Years	[Purple bar from 2010 to 2013]									
6 Cell 2 - 3.2 Years	[Purple bar from 2013 to 2016]									
7 Cell 3 - ?	[Purple bar from 2016 to 2017]									
8										
9 New Landfill Siting										
10 Site Selection	[Blue bar]									
11 Planning and Permitting		[Blue bar]								
12 Land Acquisition					[Blue bar]					
13 Design						[Blue bar]				
14 Final Permits, Procurement, and Construction							[Blue bar]			

What are the Requirements for a RCRA D Landfill?

40 CFR 258 Governs the development, operation and closure of landfills by the EPA. There are six key criteria regarding the siting of a landfill:

- No. 1: Airport Restriction
- No. 2: Floodplains
- No. 3: Wetlands
- No. 4: Fault Areas
- No. 5: Seismic Impact Zones
- No. 6: Unstable Areas

40 CFR Part 258

- **No. 1: Airport Restriction**
 - Owners/operators must demonstrate that the landfill does not constitute a bird aircraft strike hazard within 10,000 feet of the end of any airport runway used by turbojet aircraft, or within 5,000 of any airport runway used only by piston driven aircraft.
- **No. 2: Floodplains** - Landfills located within a 100 year floodplain cannot restrict stormflows within the floodplain, reduce the temporary water storage capacity of the floodplain, or allow the washout of solid waste.

40 CFR Part 258

- **No. 3: Wetlands –**
A landfill may not build or expand into wetlands. The EPA grants exceptions to this restriction based on the circumstances and other considerations.
- **No. 4: Fault Areas –**
New landfills or landfill expansions are generally prohibited within 200 feet of fault areas.

40 CFR Part 258

- **No. 5: Seismic Impact Zones** - Landfills located in a seismic impact zone must demonstrate that the facility including, but not limited to, its liners, leachate collection system, surface water control system, and other system controls have been designed to resist the effects of ground motion due to earthquakes.
- **No. 6: Unstable Areas** - All owners/operators must demonstrate that the structure of their units will not be compromised during events including:
 - Debris Flows
 - Sinkholes
 - Rockfalls
 - Liquefaction of soil

Other Regulatory Criteria

- Receipt of Regulated Hazardous Waste
- Cover Material
- Vectors
- Explosive Gases
- Air Quality
- Access
- Storm Water Run-off and Run-on
- Surface Water Protection
- Tsunami Inundation Zone
- Design
- Groundwater Monitoring and Protection
- Closure and Post Closure Care
- Financial Assurance

What Did the Mayor's Advisory Committee on Landfill Site Selection Do, and What Were Their Findings?

- Formed by the prior Mayor in 2007 to advise him on selecting Kaua'i's next landfill site.
- The MACLS established a series of criteria that they felt best represented community interests and concerns from each of the five districts of Kaua'i: Waimea, Kōloa, Līhu'e, Kawaihau, and Hanalei.
- The MACLS understood their task was not to be an exhaustive evaluation of all factors necessary in siting a landfill. Rather, their assignment was to represent each of the five communities they represented.
- The MACLS also understood that it was not their assignment to identify alternatives to the need for landfilling as the County was already working on recycling and other potential solutions to reduce the ultimate need for a landfill.

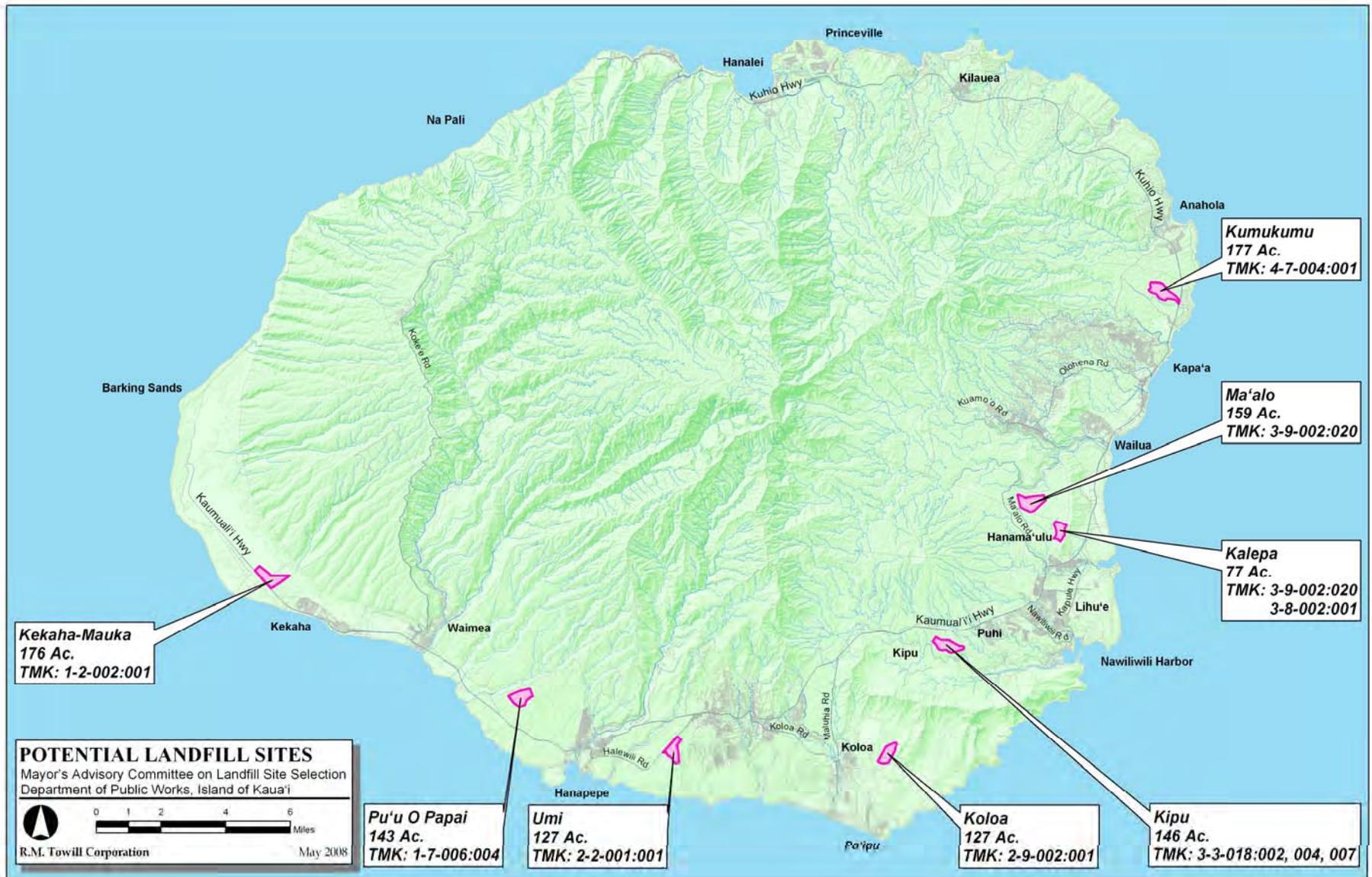
Mayor's Advisory Committee on Landfill Site Selection

- 15 members comprised of three individuals from each of the five districts of Kaua'i
- R. M. Towill Corporation assisted the MACLS and provided technical support and facilitation services
- First step involved the Committee familiarizing themselves with the prior siting studies
- Developed criteria based on Community Interests

Evaluation Criteria Development

- MACLS examined prior landfill siting studies performed by Earth Tech (March 2001 & June 2002); found that selected sites addressed Federal and State criteria for landfill siting
- Original plan to evaluate 8 sites and any additional sites. MACLS felt prior studies did good job of site evaluation and the Committee did not have the technical expertise to propose new sites.
- Kumukumu was removed due to incompatibility (Agricultural Subdivision Development)
- Developed the list of 26 criteria that would be important in assessing each site from the point of view of the community.

MAP OF POTENTIAL LANDFILL SITES



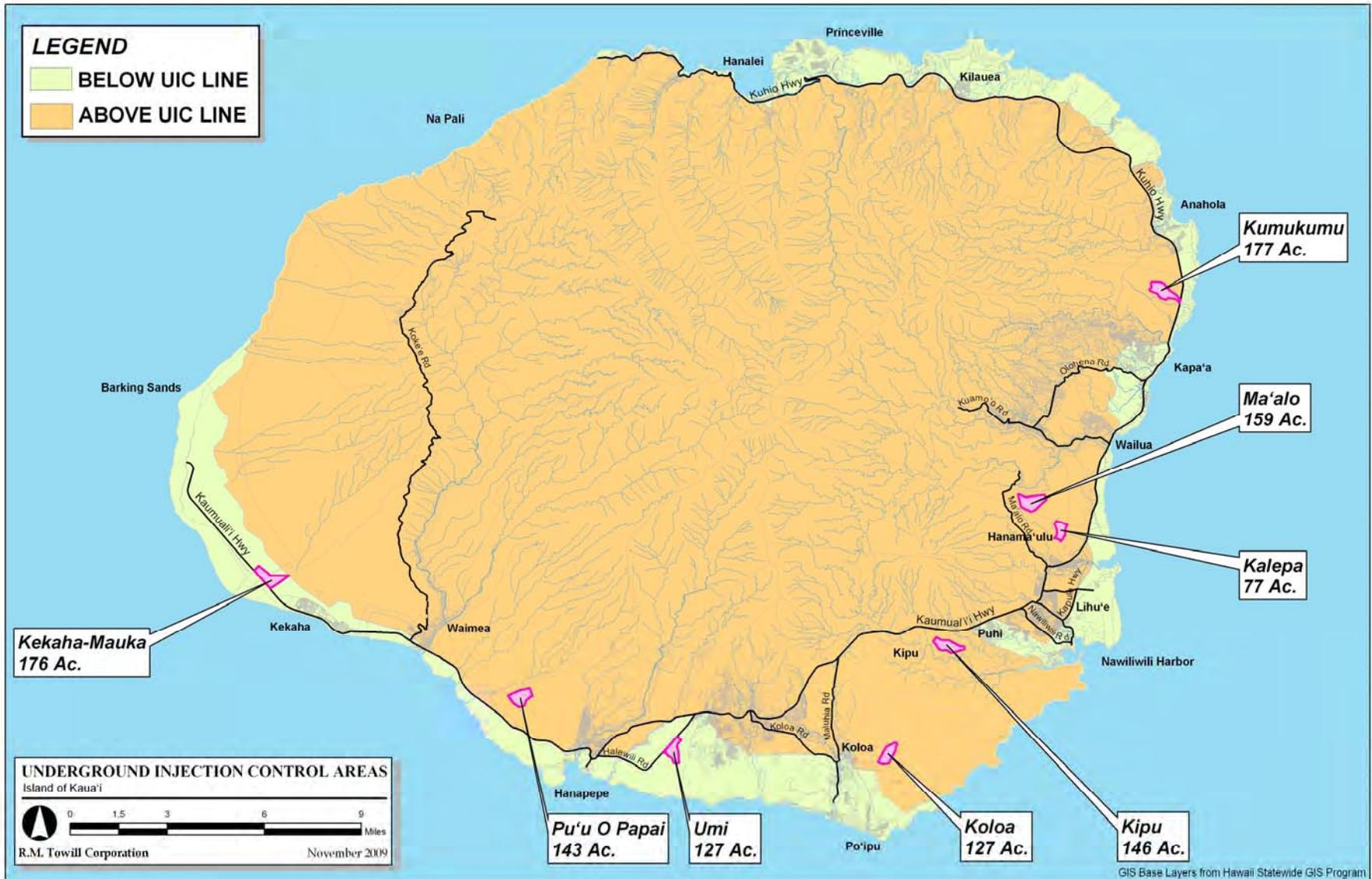
**Table 5-1
Siting Criteria and Weighting Factors**

Criterion	Weighting Factor
No. 13 - Location of site relative to the Underground Injection Control (UIC) Line	10
No. 1 - Population density near site	9
No. 20 - Cost of development	9
No. 18 - Haul distance from major municipal solid waste generation areas	9
No. 26 - Landfill Capacity or Site Life	8
No. 10 - Consistency of the designation of the site for a landfill with the Kaua'i General Plan	8
No. 2 - Distance to nearest residence, school, hospital or non-compatible business	8
No. 21 - Cost of operations	7
No. 3 - Displacement of residences and/or businesses including agricultural businesses	7
No. 4 - Archaeological and/or historical significance	7
No. 5 - Cost of site acquisition	7
No. 14 - Proximity to surface water	7
No. 15 - Flora and fauna habitat	5
No. 16 - Annual precipitation	5

Table 5-1
Siting Criteria and Weighting Factors

No. 7 - Site distance from major highway	4
No. 8 - Schools or hospitals along access road	4
No. 6 - Ceded or Hawaiian Homestead Land	3
No. 25 - Proximity to parks and recreational facilities	3
No. 9 - Residential units or developments along access road	2
No. 12 - Consistency of the site with the existing State Land Use Designation	2
No. 19 - Adequacy of site drainage	2
No. 22 - Availability of utilities	2
No. 24 - Availability of existing access roadway from major highway or collector street	2
No. 11 - Consistency of the site with the exiting County land use zoning designation	1
No. 17 - Prevailing wind direction relative to populated areas	1
No. 23 - Access to fire protection	1

MAP OF UIC BOUNDARY



Criterion No. 13: Location of site relative to Underground Injection Control (UIC) Line

- UIC line administered by the State DOH to protect groundwater resources
- Areas inside the UIC line contain aquifers considered a drinking water source and have stringent permit requirements for injection wells
- Areas outside the UIC line do not contain aquifers considered a drinking water source and wider variety of wells are permitted
- Point scale for evaluating this criterion:
 - 1 point = inside UIC line
 - 2 points = UIC line passes through the property boundary
 - 3 points = outside the UIC line

Scoring/Ranking Process

- Site Identification
- Criteria Development
- Criteria Scoring
- Criteria Blind Weighting
- Criteria Applied to Sites w/o Weighting
- Site Ranking Discussion w/Blind Sites
- Weighted Application of Factors

Table 6-2, Site Scores

Criterion	Weight	Site Scores													
		1. Kalepa		2. Umi		3. Pu'u O Papai		4. Kekaha Mauka		5. Ma'alo		6. Kīpū		7. Kōloa	
		Pt.	Score	Pt.	Score	Pt.	Score	Pt.	Score	Pt.	Score	Pt.	Score	Pt.	Score
16 Annual precipitation	5	1	5	2	10	2	10	2	10	1	5	2	10	2	10
17 Prevailing wind direction relative to populated areas	1	1	1	1	1	1	1	3	3	3	3	3	3	1	1
18 Haul distance from major municipal solid waste generation areas	9	3	27	3	27	3	27	1	9	3	27	2	18	1	9
19 Adequacy of site drainage	2	1	2	2	4	2	4	2	4	1	2	2	4	1	2
20 Cost of development	9	2	18	2	18	2	18	3	27	2	18	2	18	1	9
21 Cost of operations	7	3	21	2	14	2	14	1	7	1	7	2	14	2	14
22 Availability of utilities (water)	2	1	2	2	4	1	2	3	6	1	2	1	2	3	6
23 Access to fire protection	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1
24 Avail. of existing access roadway from major highway or collector street/road	2	2	4	3	6	2	4	3	6	2	4	2	4	2	4
25 Proximity to parks and recreational facilities	3	2	6	2	6	3	9	2	6	1	3	3	9	3	9
26 Landfill Capacity or Site Life	8	3	24	3	24	3	24	3	24	3	24	3	24	3	24
Site Score Totals		49	248	63	334	53	269	62	326	51	265	58	288	56	295
Rank Order		7th		1st		5th		2nd		6th		4th		3rd	

Process Changes

The MACLS also considered two key issues that could significantly affect the viability of a landfill site:

- Environmental Justice (EJ)
- Host Community Benefits

Environmental Justice

Definition:

There are three fundamental principles of environmental justice:

1. To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
2. To ensure the full and fair participation by all potentially affected communities in the decision-making process; and
3. To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

In its strictest sense, the County of Kaua'i is not mandated to adhere to the principles of Environmental Justice in the landfill siting process because federal monies will not be used. However, the Committee agrees with the County that EJ remains an important issue regardless of the source of the funding and that the spirit and intent of the law should be considered in this process.

Environmental Justice Report Findings

There are 47 US Census block groups on Kauai

- 27 block groups on island (57%) are EJ areas
- 21 block groups were identified as having a disproportionately high representation of one or more minority ethnic groups as defined by the federal government
- 2 block groups had a disproportionately high representation of low income groups
- 4 block groups qualified as EJ for both minority and poverty conditions

FIGURE 3: EJ CLASSIFICATION OF POTENTIAL LANDFILL SITES

Potential Landfill Site	Block Group	Environmental Justice Classification	
		Status	Reason (if EJ)
Kalepa	404-1	Yes	Minority Only
Kekaha-Mauka	409-1	Yes	Minority Only
Kipu	404-1	Yes	Minority Only
Koloa	406-1	No	--
Kumukumu	402.01-1	Yes	Poverty Only
Maalo	404-1	Yes	Minority Only
Puu O Papai	408-1	Yes	BOTH
Umi	407-1	No	--

Recommendations to Address Environmental Justice

1. If the selected site is not in an EJ area, then no EJ related mitigations are necessary. If site is considered EJ, move to step 2.
2. Survey the residents near the selected site to determine appropriate mitigation. Sampling must include sufficient numbers of both EJ constituents and non-EJ constituents to enable comparisons between the 2 groups where appropriate.
3. Survey findings would identify mitigations that could be offered as provided by the community.

Host Community Benefits

- A compensation directed to a community that hosts a regionally advantageous but locally unwanted facility
- 3 Common Impacts of Landfills:
 - Windblown litter
 - Landfill associated odor
 - Visual impacts
- Purpose of HCB is to balance the potential impacts with the benefit that a landfill provides to the surrounding region
- Generally, compensation involves adding a small fee to normal tipping fee to make funds available for projects and services

Recommendations for Host Community Benefits

- Timing: HCB should be a part of the overall approach to siting the landfill. When top sites are identified, HCB evaluation should commence.
- Community Advisory Committee (CAC): Formation of a CAC comprised of residents from the host community has been proven to be a valuable source of insight into local opinions.
- Public Interest Survey: A cost effective method to assess the opinion of a statistically significant number of residents in an area near the landfill site. Survey findings would identify mitigations that might be offered.

What are the County's Requirements for an Environmental Impact Statement (EIS) and what will it include?

- Conduct detailed evaluation of all alternative sites and prepare a HRS, Chapter 343, EIS
- Assess the environmental, social, and technical issues involved in selecting Kaua'i's next landfill site
- Engage the Community and Seek Public Comment to Make a Better EIS

Community Comments Regarding Relevant Environmental Issues That Should be Considered in Preparing the EIS?

- The EIS will examine alternative landfill sites and alternative technologies that have the potential for reducing the need for landfilling.
- An alternatives analysis will be an important part of the EIS that will include further detailed examination of multiple factors.

EIS Examination of:

- RCRA D Criteria as established by the EPA in siting a municipal sanitary landfill.
- Other State and County of Kaua'i regulatory requirements that relate to the selection of a landfill. This will include further discussion on the State Land Use Commission's recent actions with regard to the establishment of Important Agricultural Lands on Kaua'i.
- The criteria identified by the MACLS and further examining the criteria using detailed information that was not available to the MACLS.
- Other County of Kaua'i requirements including landfill life or capacity.

Other EIS Issues:

- The potential for environmental impacts and the proposed mitigation measures to reduce or minimize the impacts.
- Discussion regarding comments from the community on relevant issues they would like to see addressed.
- The results of special studies on socioeconomic, botanical, faunal, and related issues of concerns that should be considered in an EIS
- Other aspects of the EIS that are required by law, such as describing the potential for secondary and cumulative impacts.

Community Comments Regarding Relevant Environmental Issues That Should be Considered in Preparing the EIS?

- The Community is asked to participate in the planning process by sharing with the County and its consultants the relevant environmental issues and concerns you feel should be considered as the EIS is being prepared.
- We will take down notes and prepare a summary of the issues raised for use in the EIS.
- The County and its consultants may not have all the answers to the Community's concerns at this time. However, we are here to listen to what the Community has to say.

Next Steps and Concluding Remarks

- Project Consultants
- County of Kauaʻi,
Department of Public Works