



Public Informational Meeting MSW Landfill Issues

County of Kauaʻi
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

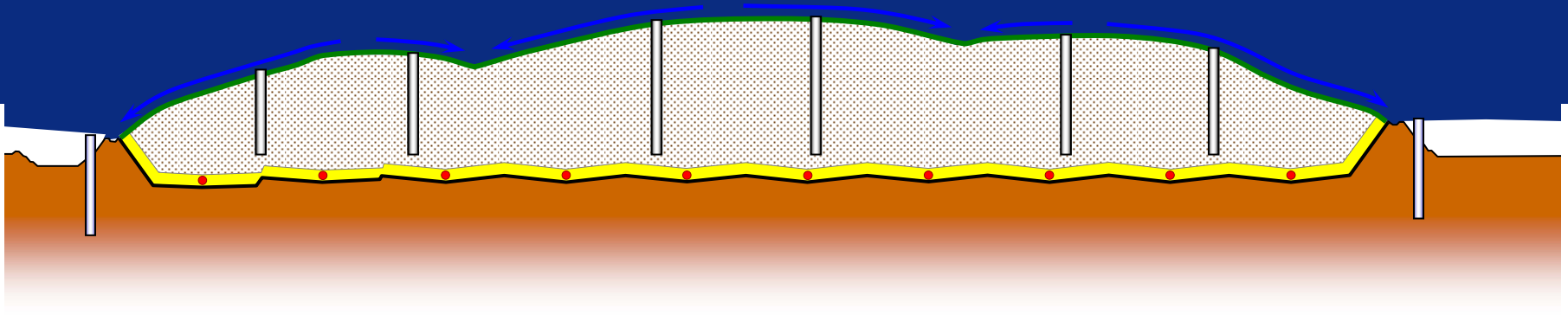
Liner

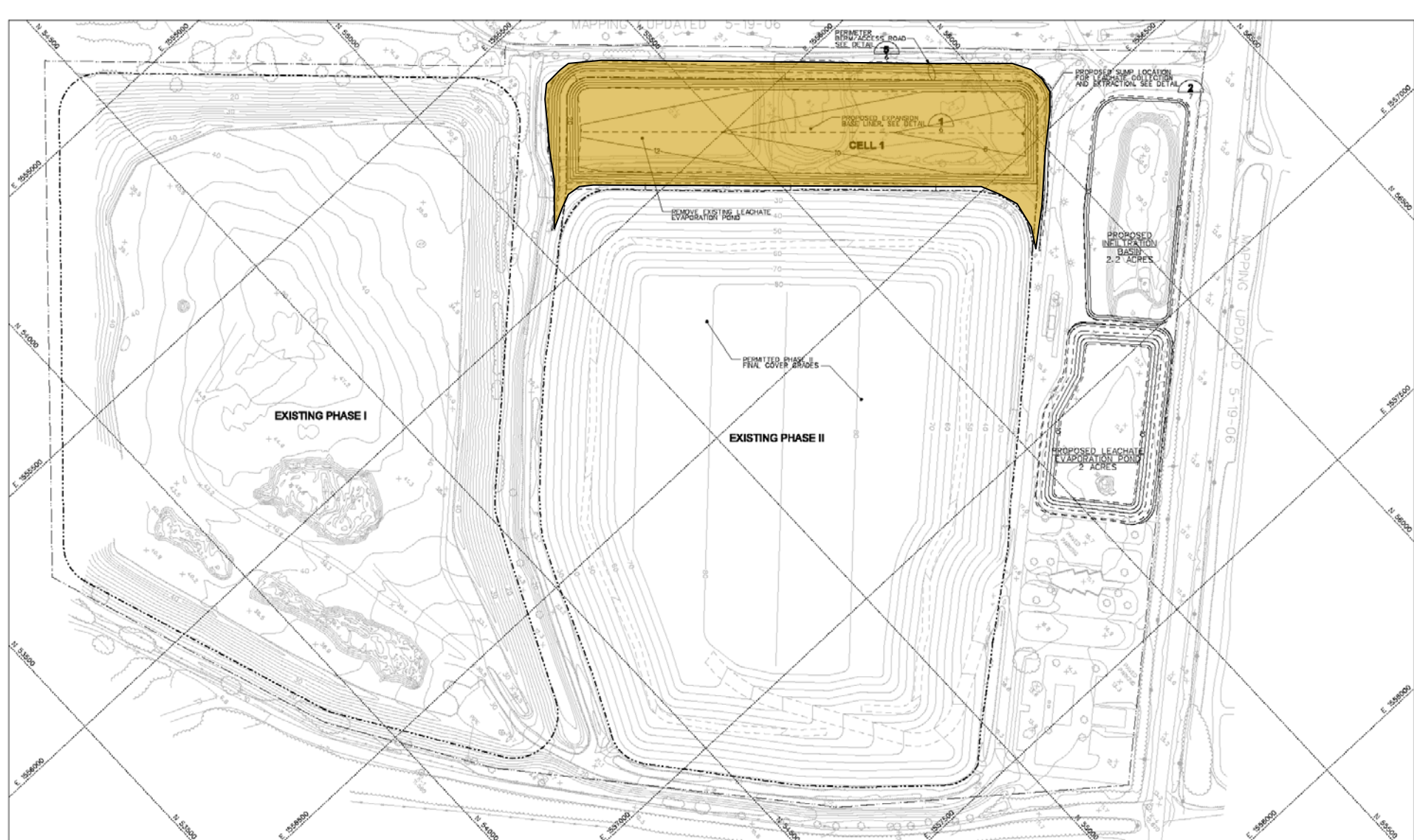
Leachate Management

Final Cover







Surface Water Management

Monitoring





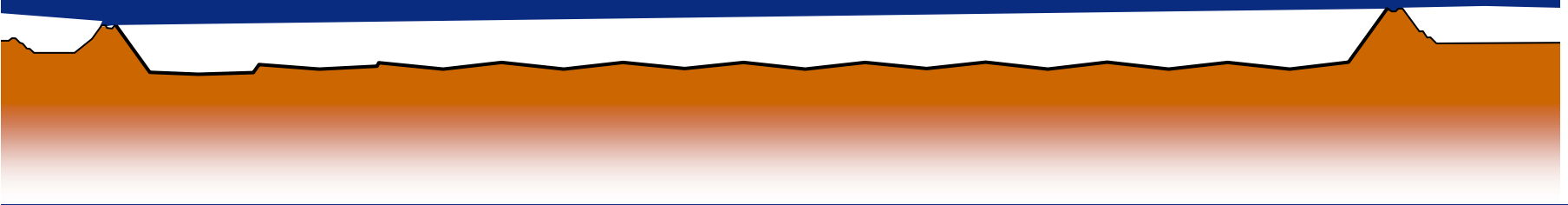
LEGEND

-  EXISTING TOPOGRAPHY
-  PROPERTY LINE
-  EXISTING LIMITS OF WASTE
-  PROPOSED LIMIT OF WASTE
-  CELL DEVELOPMENT LIMIT
-  LEACHATE EVAPORATION POND

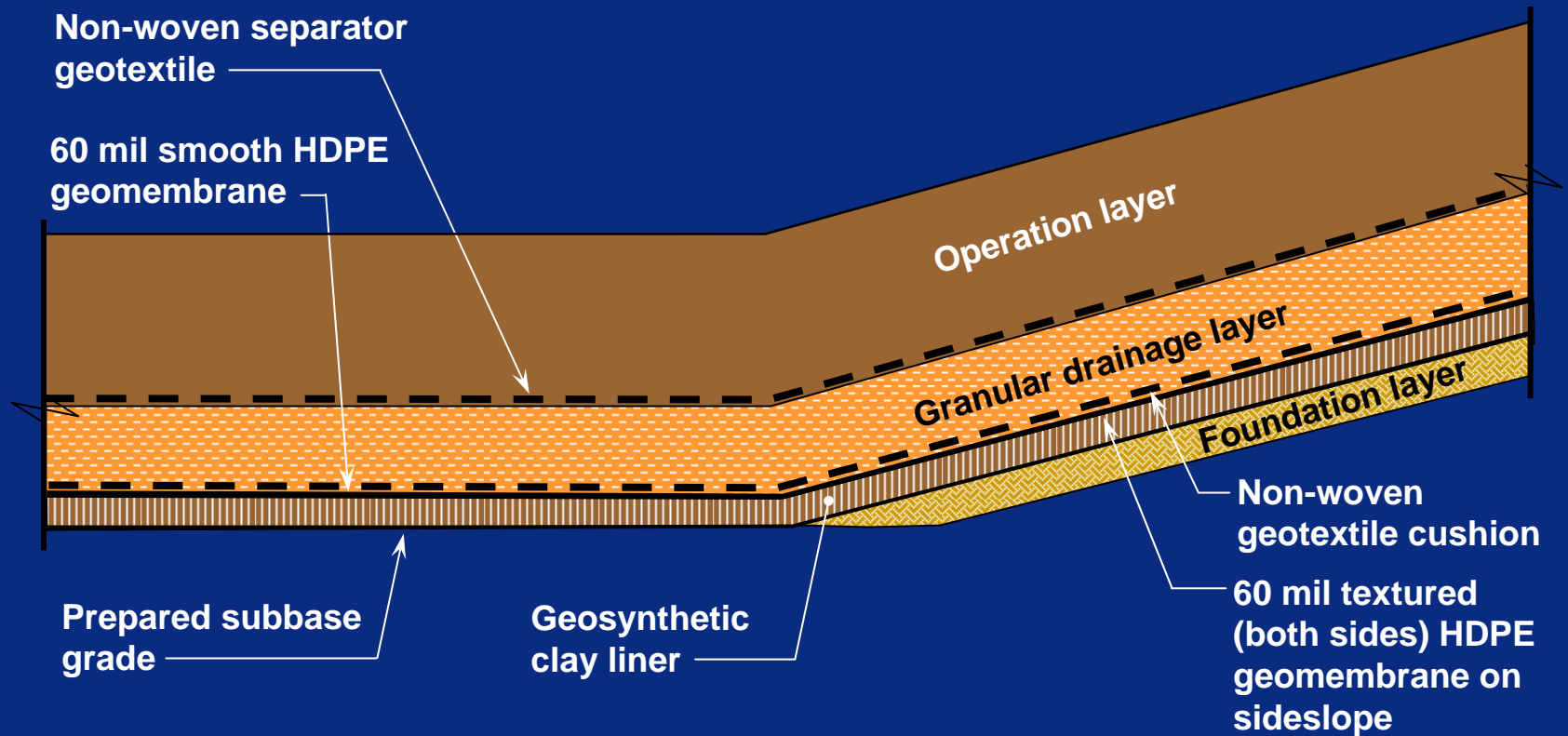


Design Elements

Liner

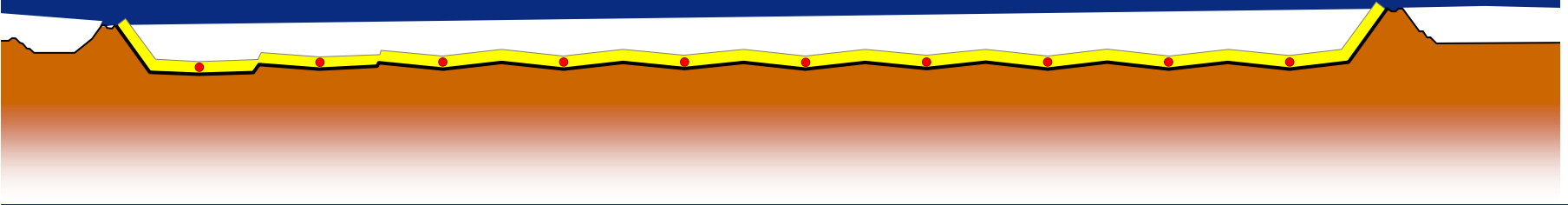


Landfill Design – Base Liner

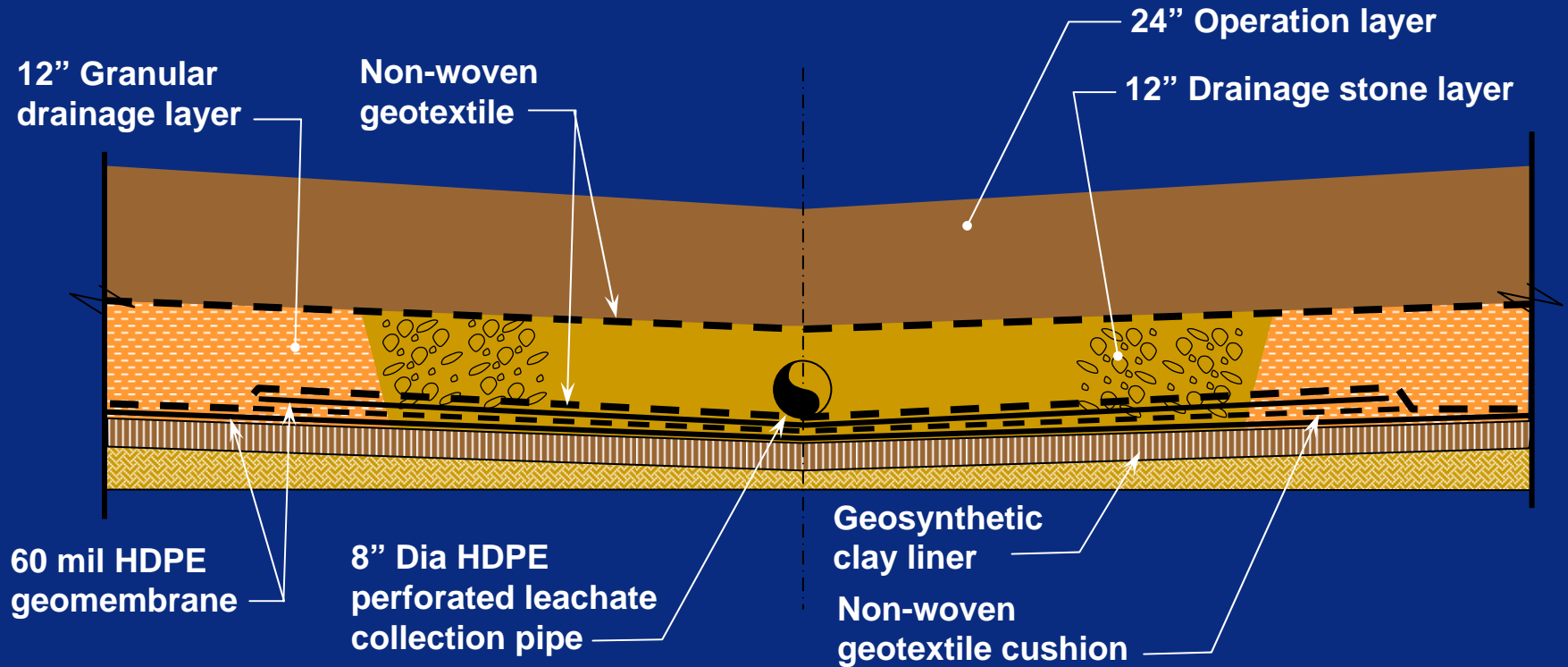


Design Elements

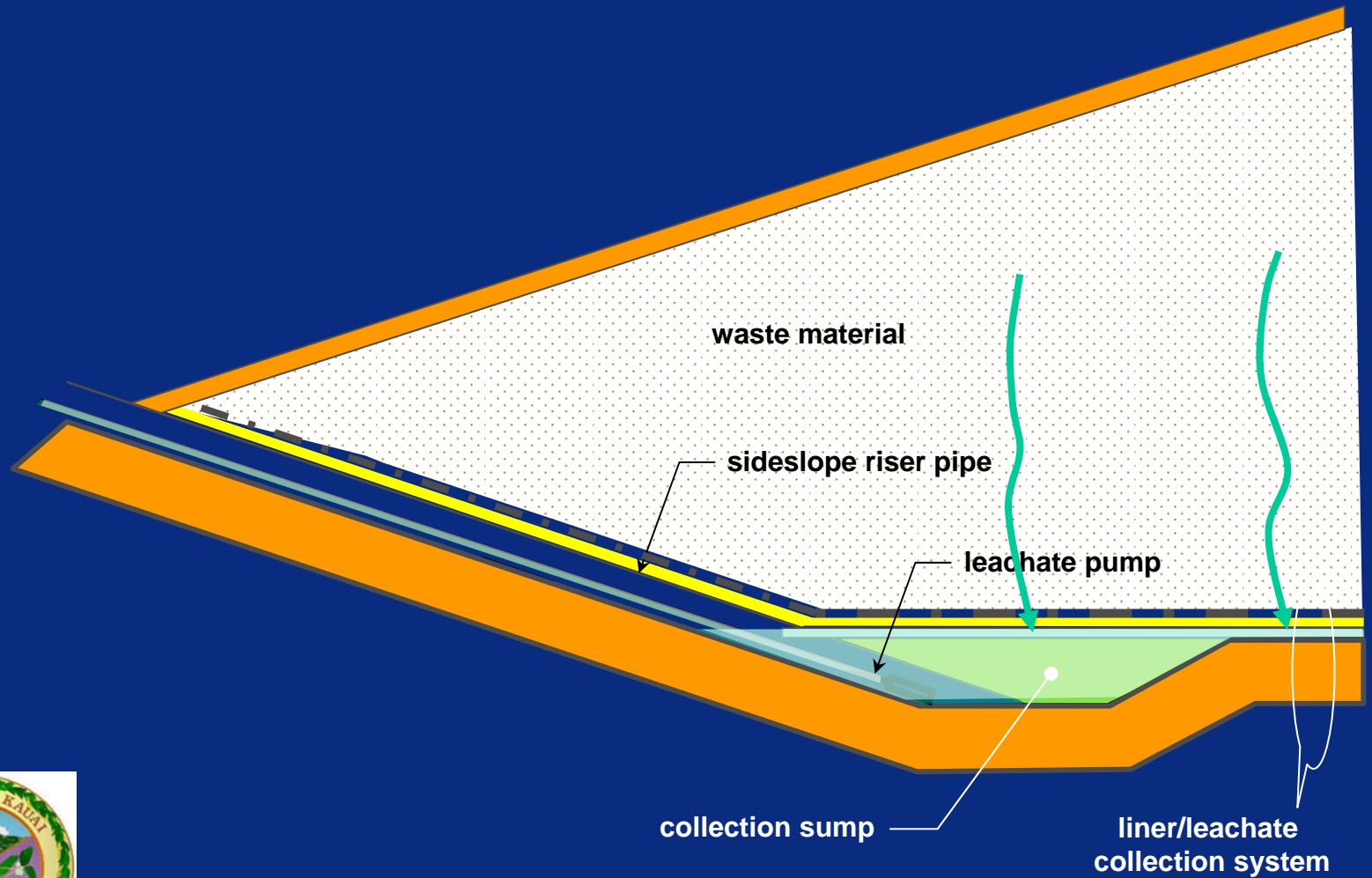
Leachate Management



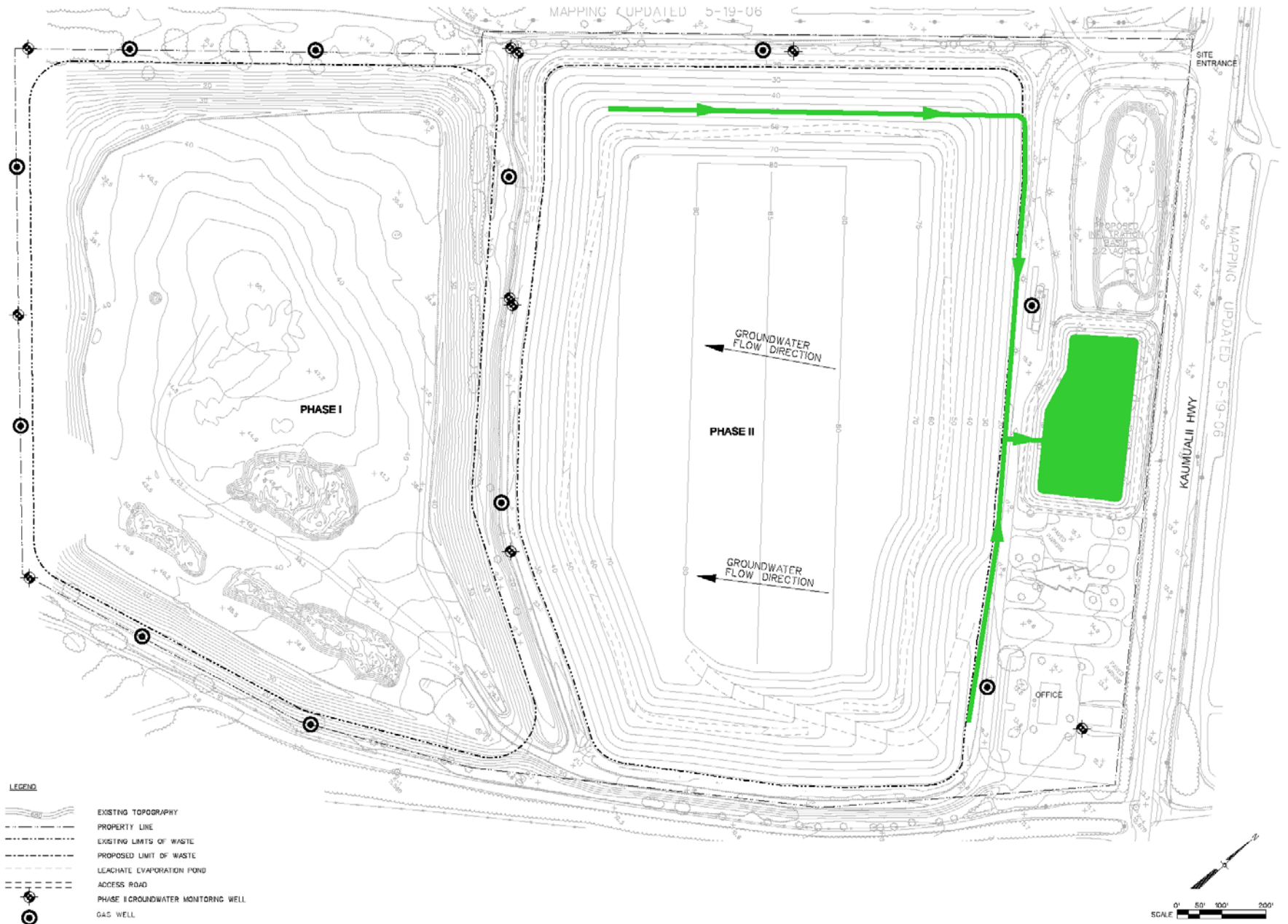
Landfill Design – Leachate Management



Riser and Sump

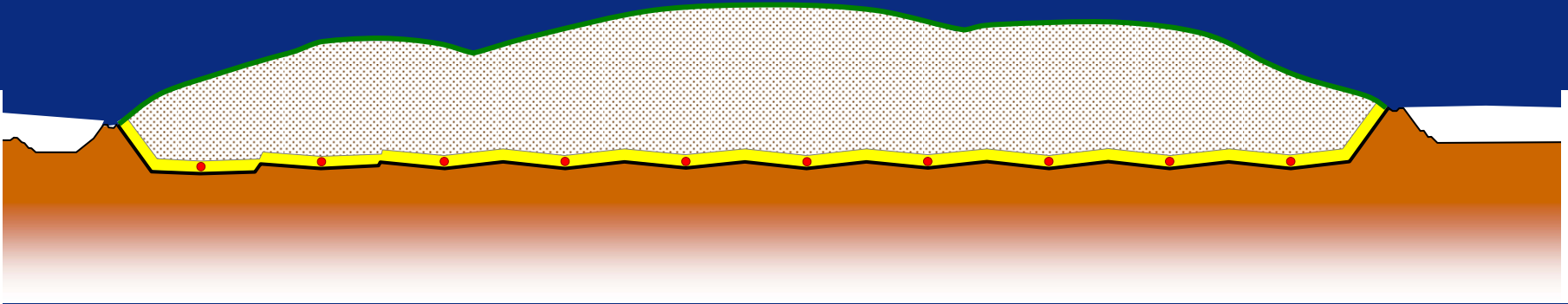


MAPPING UPDATED 5-19-06

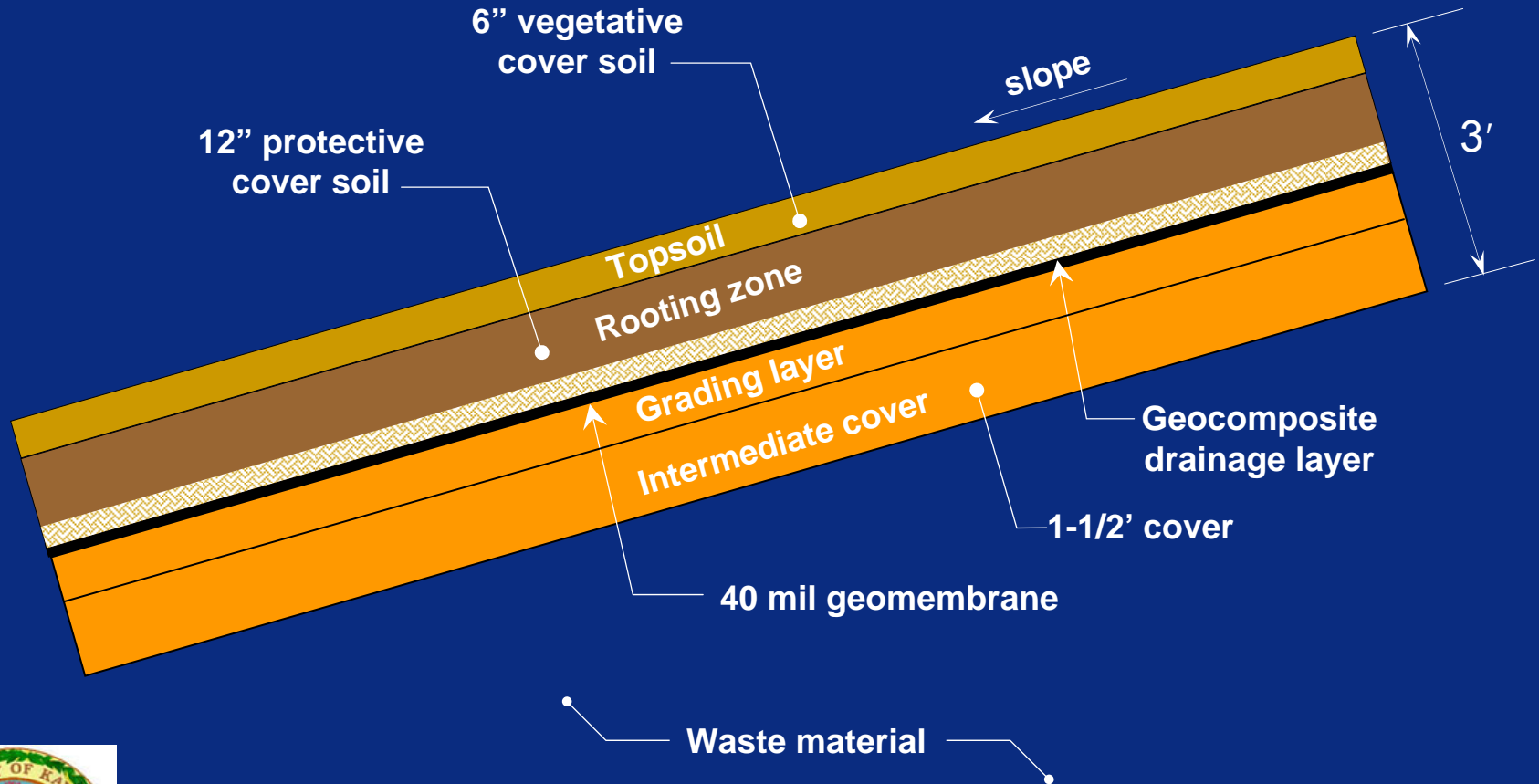


Design Elements

Final Cover

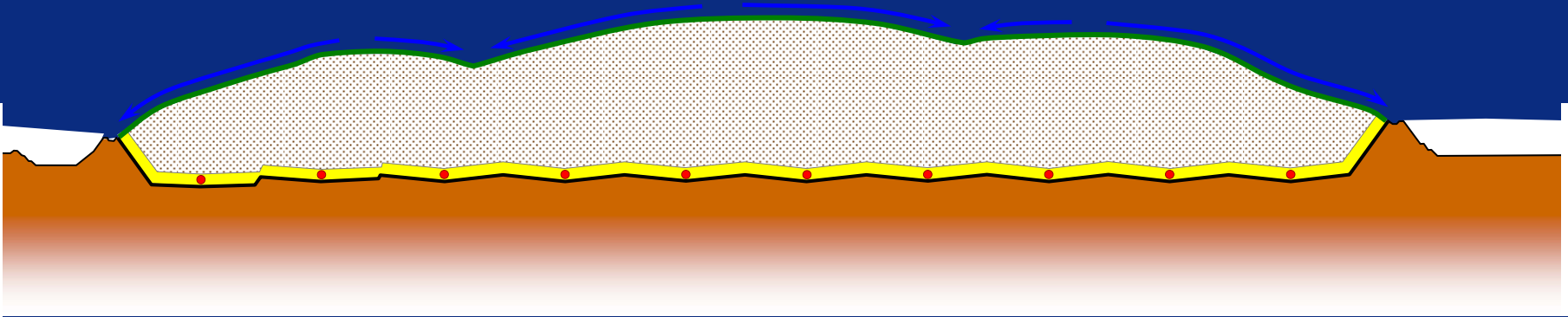


Landfill Design – Final Cover

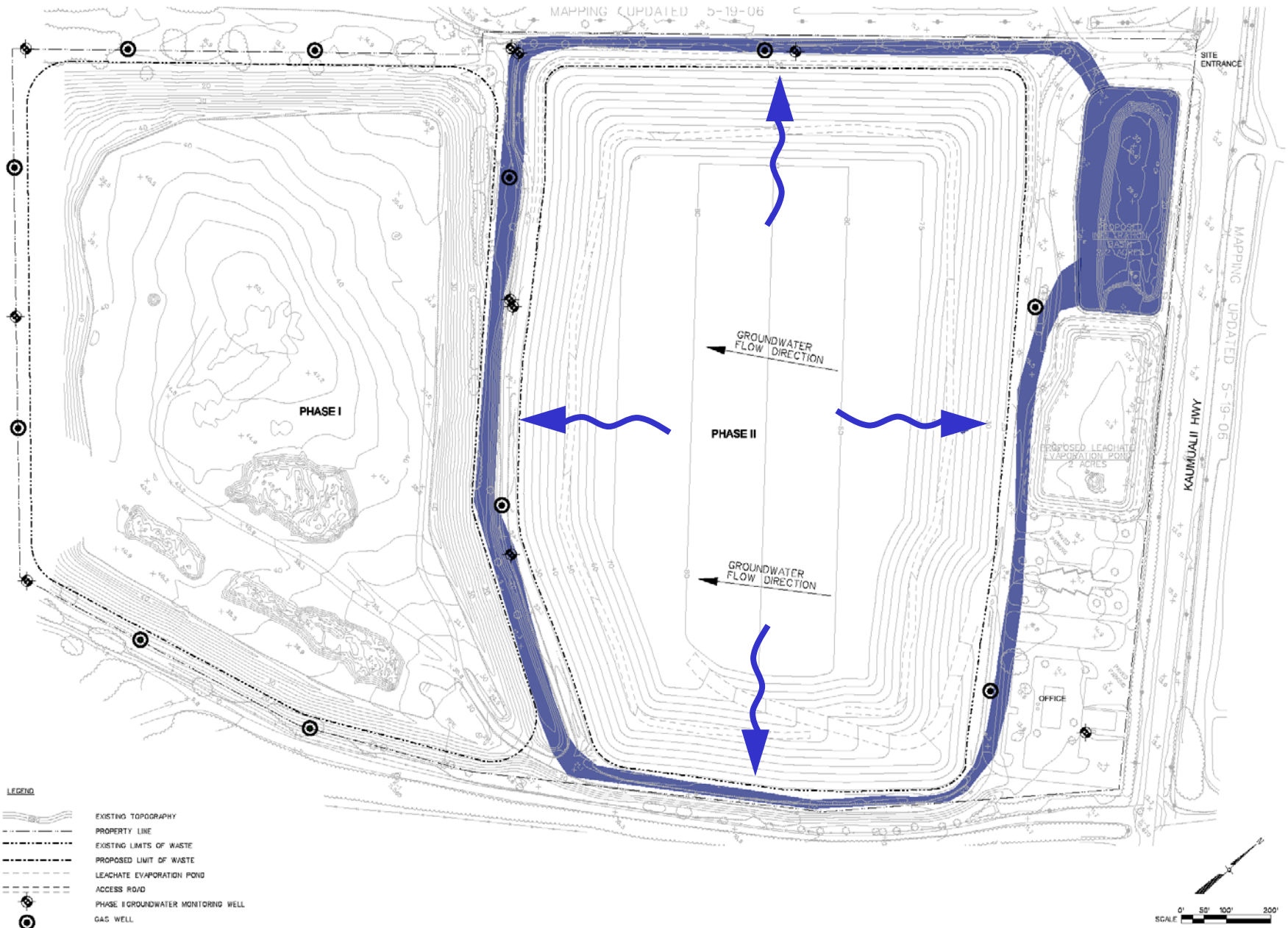


Design Elements

Surface Water Management

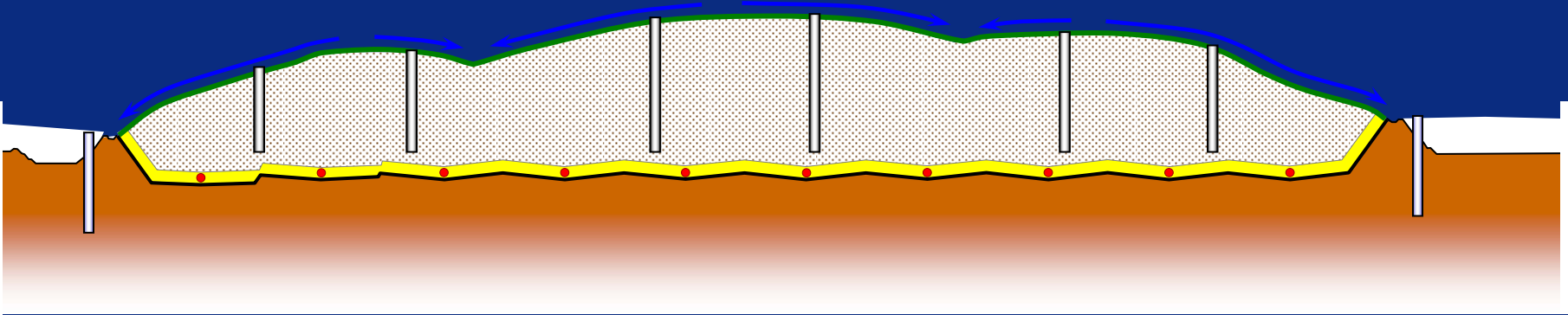


MAPPING UPDATED 5-19-06



Design Elements

Monitoring



MAPPING UPDATED 5-19-06

SITE ENTRANCE

MAPPING UPDATED 5-19-06

KAUMUALII HWY

PROPOSED
INTEGRATED
BANK
2.0 ACRES

PROPOSED LEACHATE
EVAPORATION POND
2 ACRES

PAVED
PARKING

OFFICE

GROUNDWATER
FLOW DIRECTION

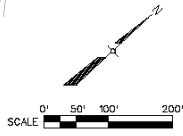
PHASE II

GROUNDWATER
FLOW DIRECTION

PHASE I

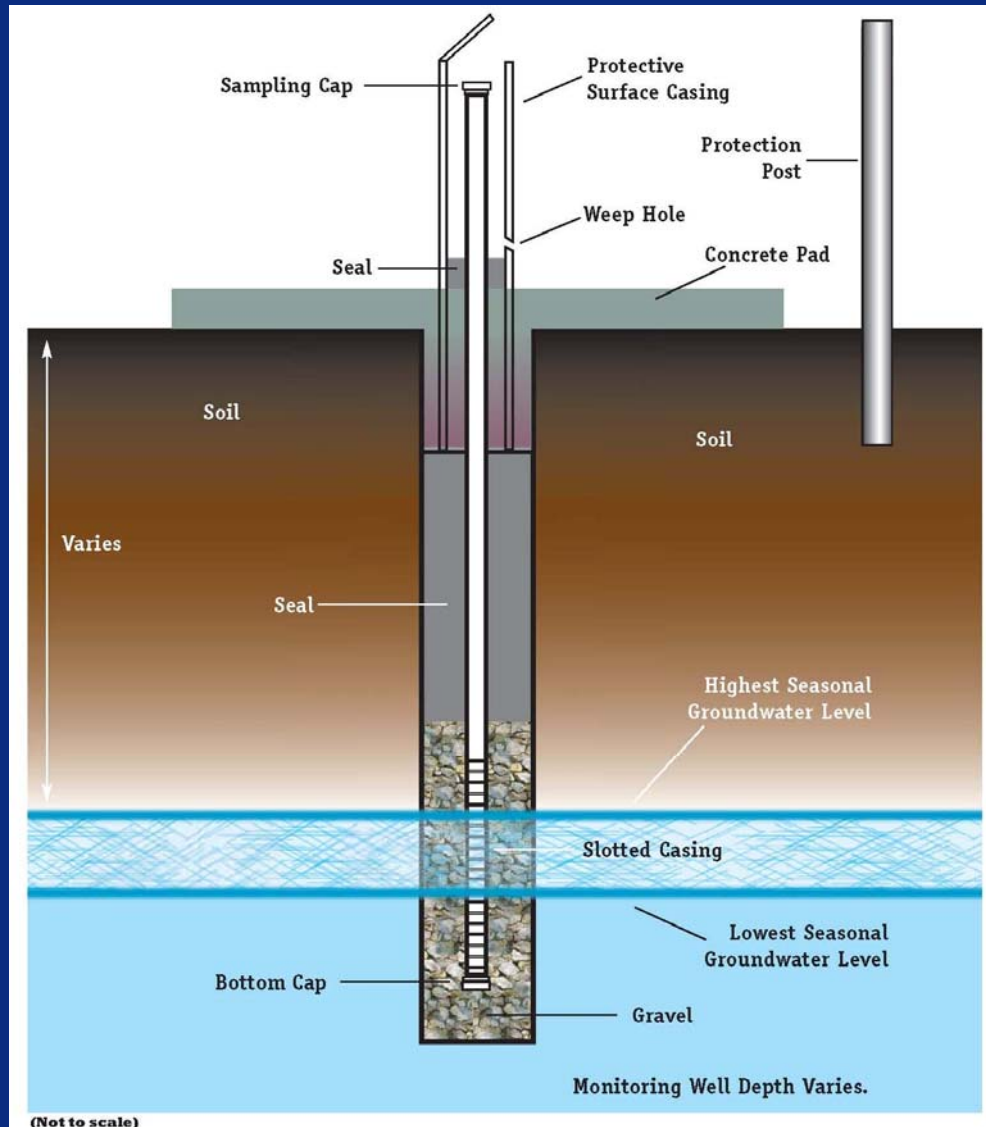
LEGEND

- EXISTING TOPOGRAPHY
- PROPERTY LINE
- EXISTING LIMITS OF WASTE
- PROPOSED LIMIT OF WASTE
- LEACHATE EVAPORATION POND
- ACCESS ROAD
- PHASE II GROUNDWATER MONITORING WELL
- GAS WELL



Landfill Design

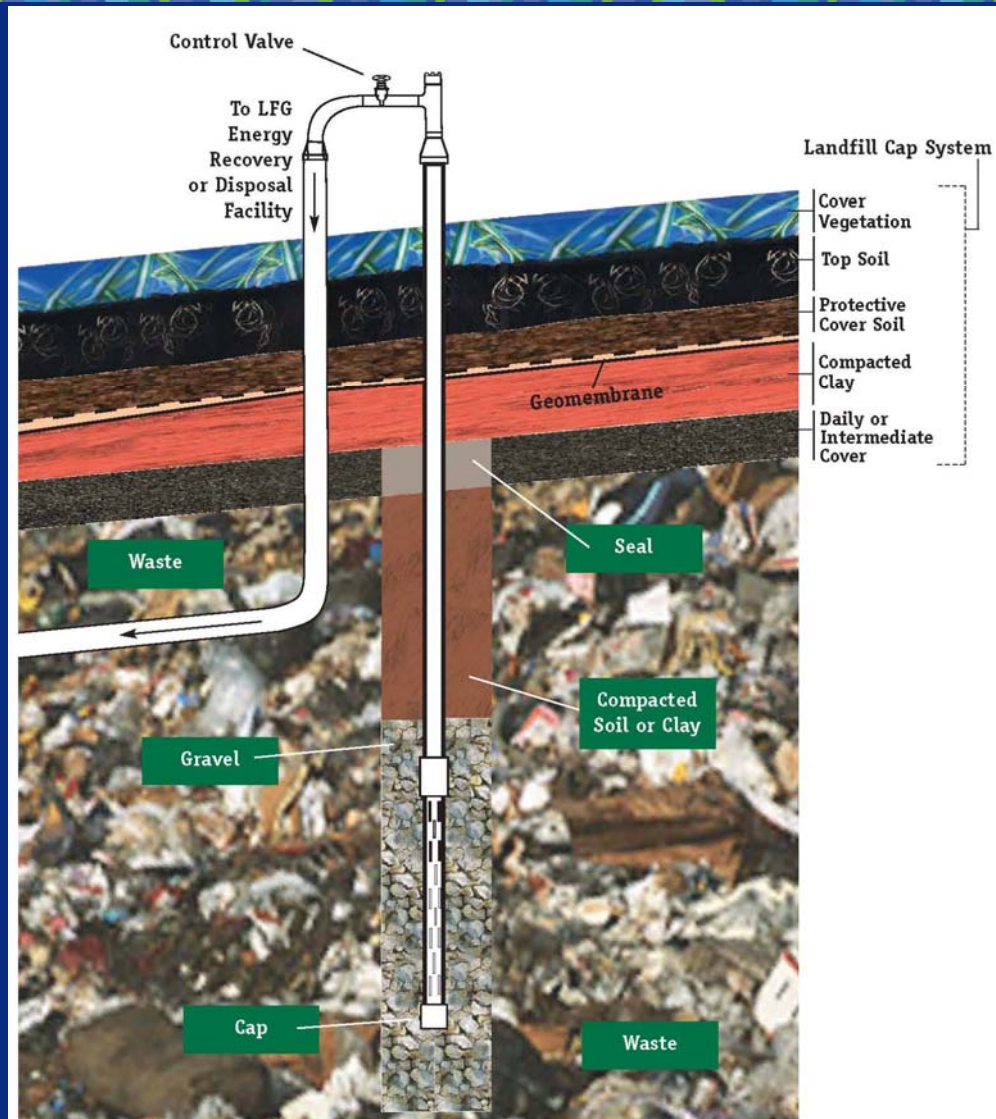
Groundwater Monitoring Wells



Frequency of
Monitoring –
4 times per year



Landfill Design – Landfill Gas



(Not to scale)



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 Līhu'e 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 2006)



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

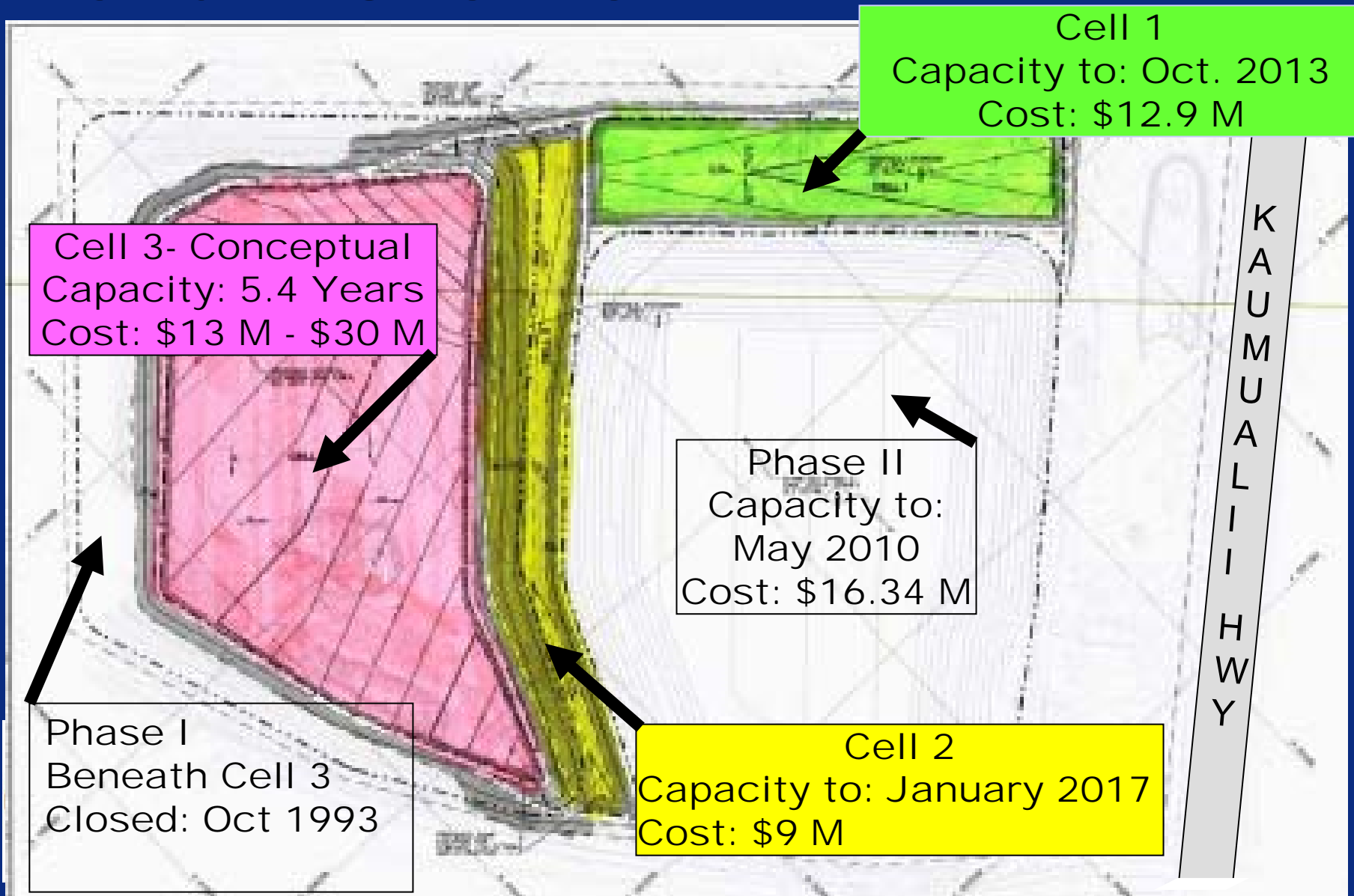


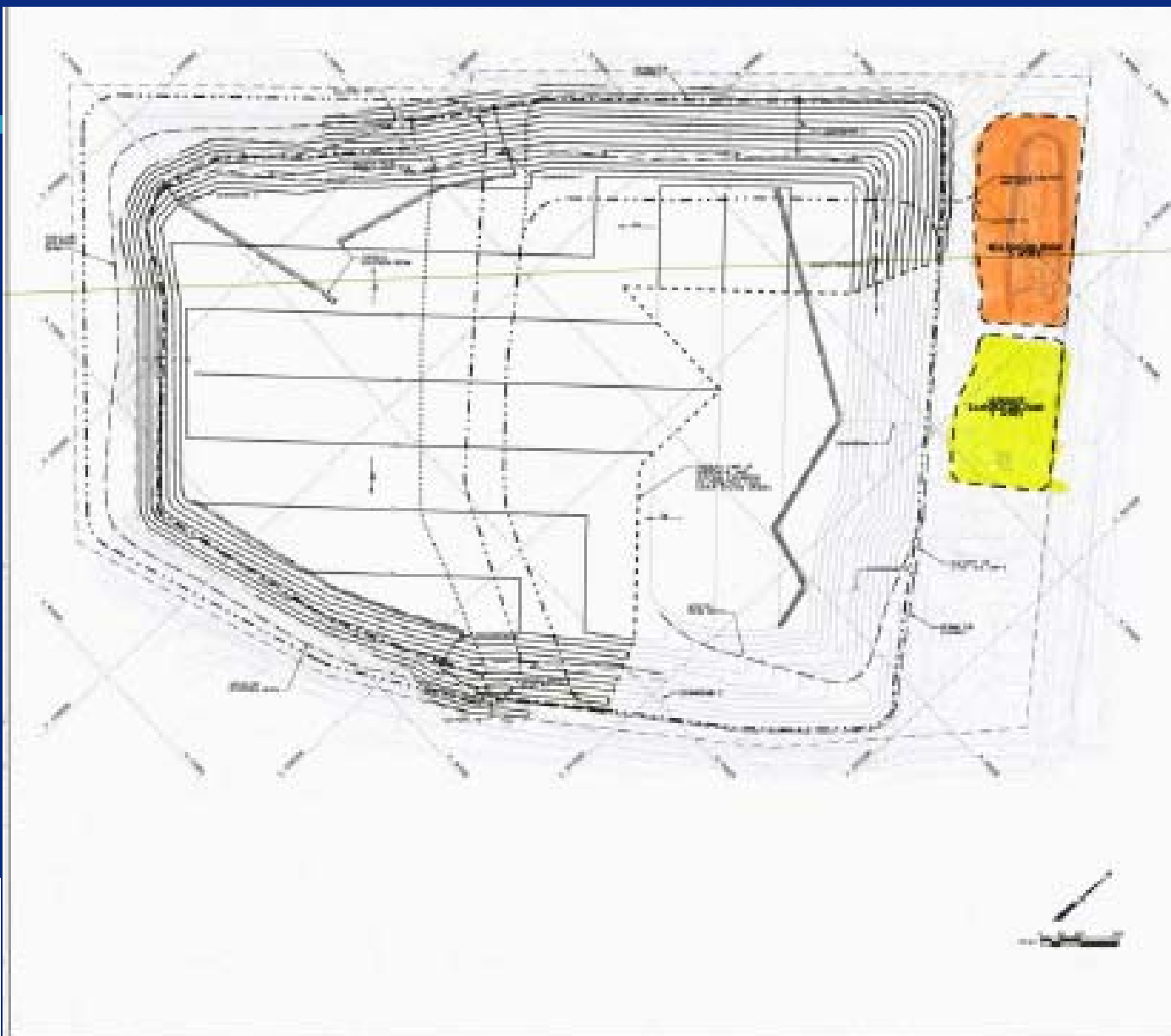
Status of the Kekaha Landfill Lateral Expansion

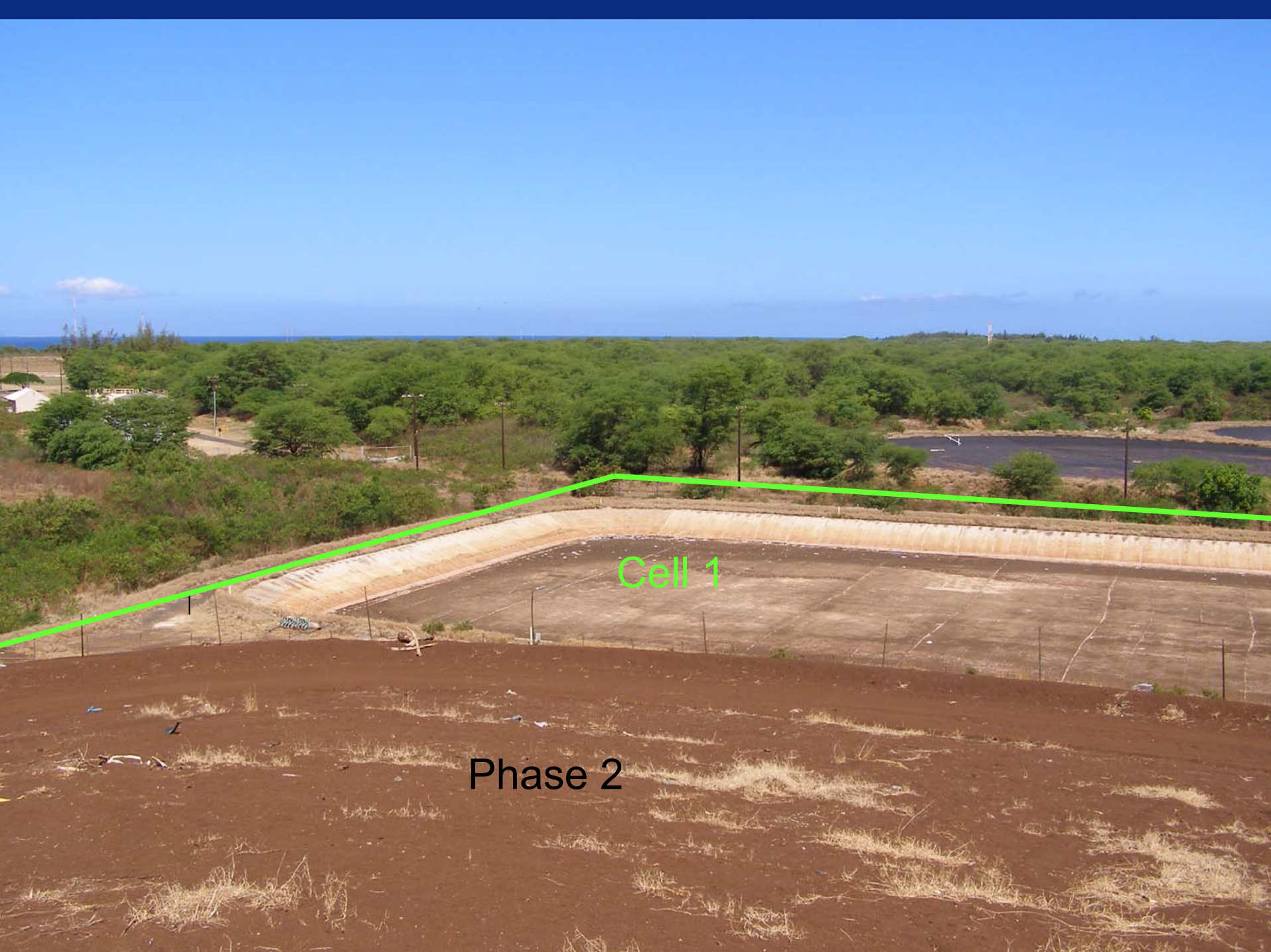
- Phased Expansion
 - ◆ Cell 1 Construction
 - Sand Hauling
 - SW Permit
 - Construction NTP
 - Material Certification
 - Cell Construction Certification
 - ◆ Cell 2 Permits
 - ◆ Cell 2 Construction



Landfill Overview

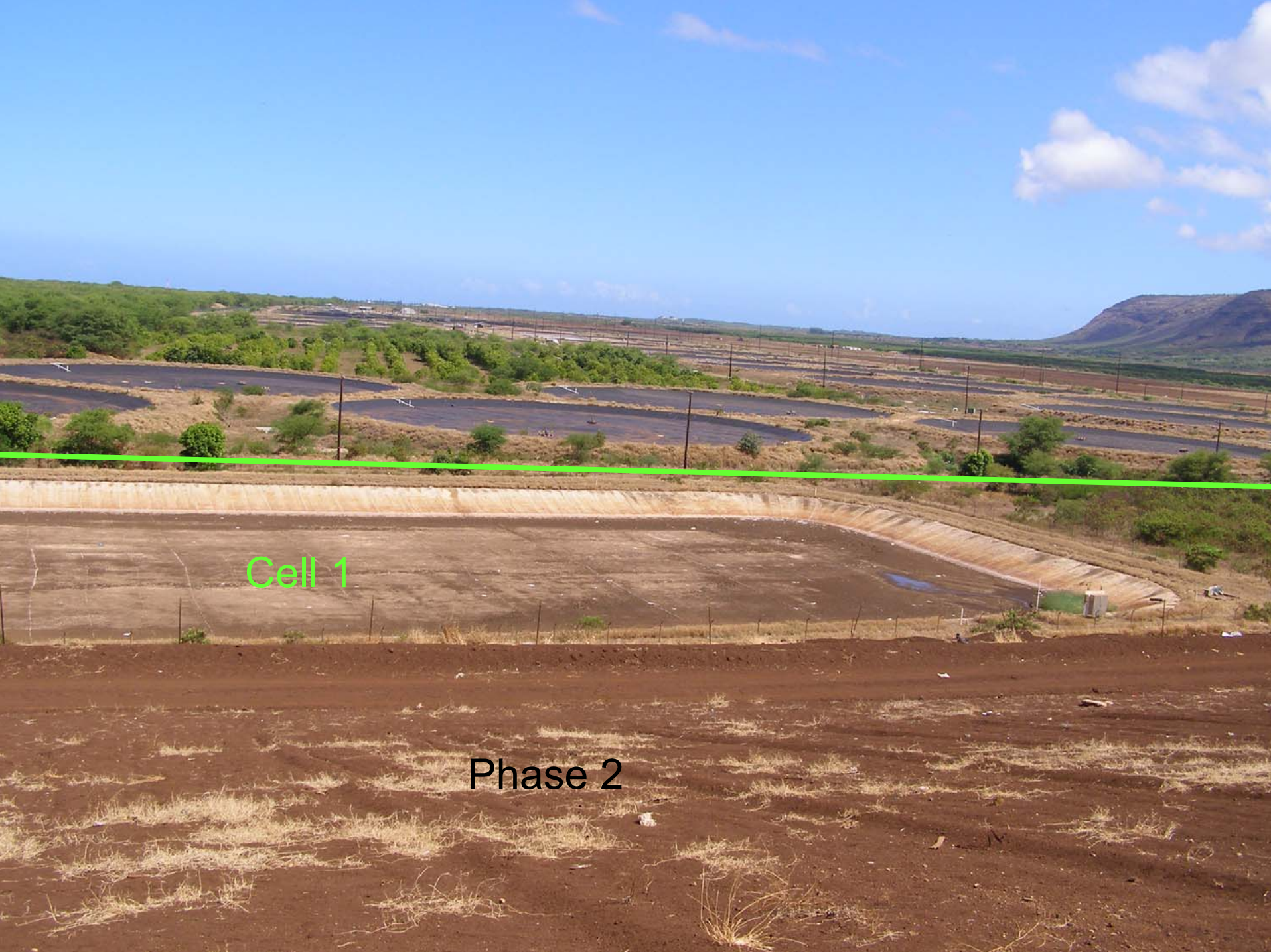






Cell 1

Phase 2



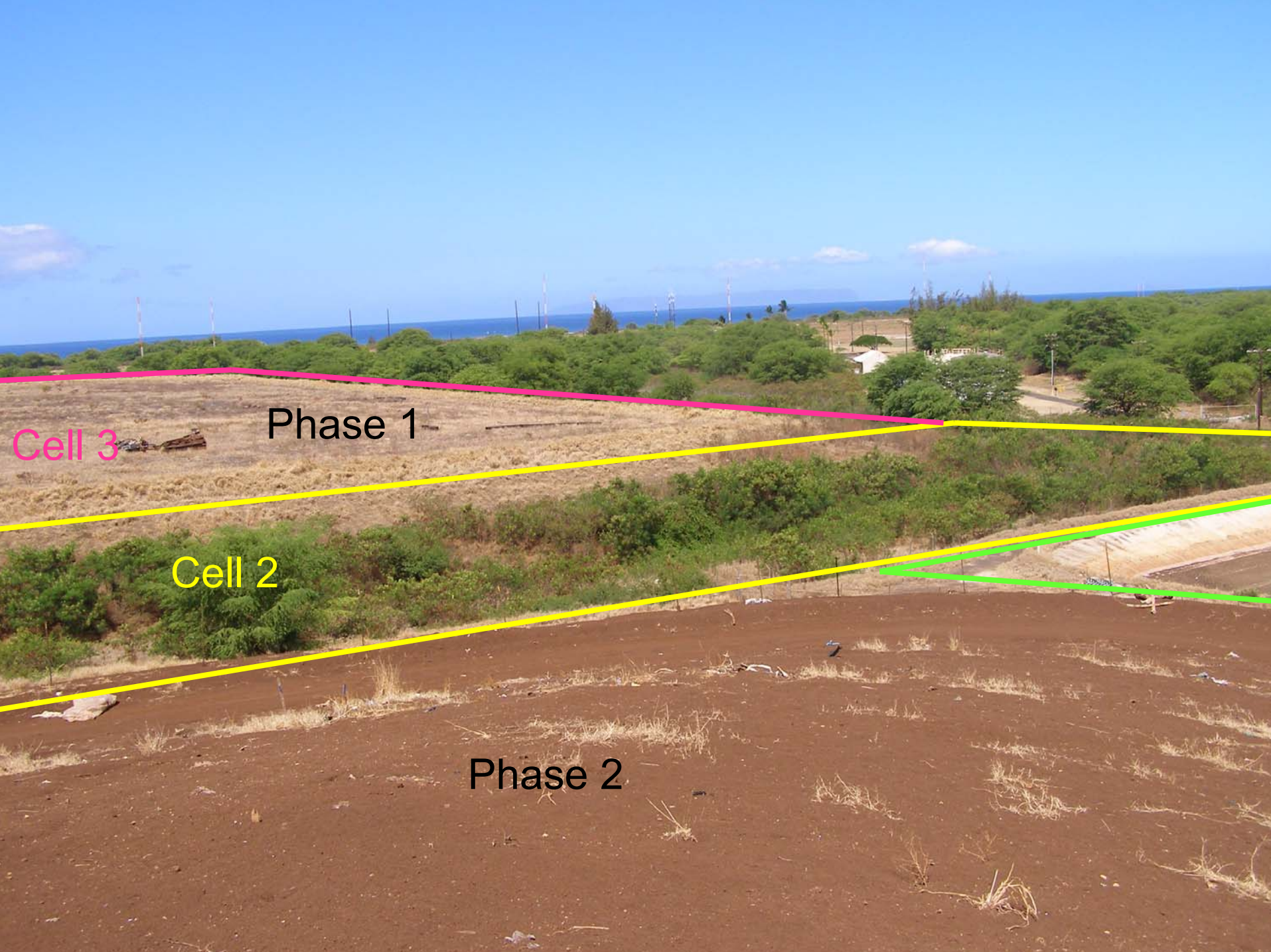
Cell 1

Phase 2



Cell 1

Phase 2

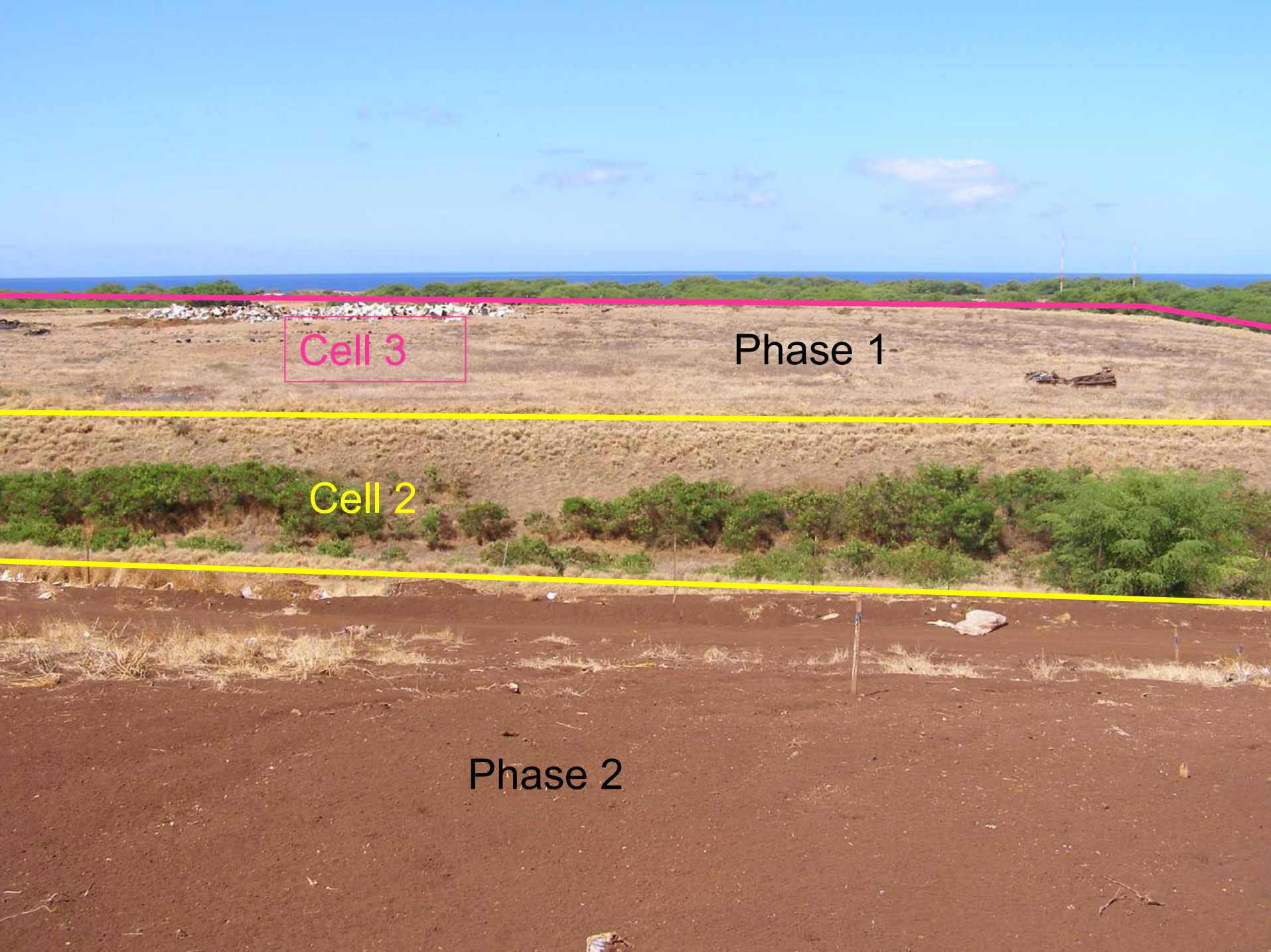


Cell 3

Phase 1

Cell 2

Phase 2

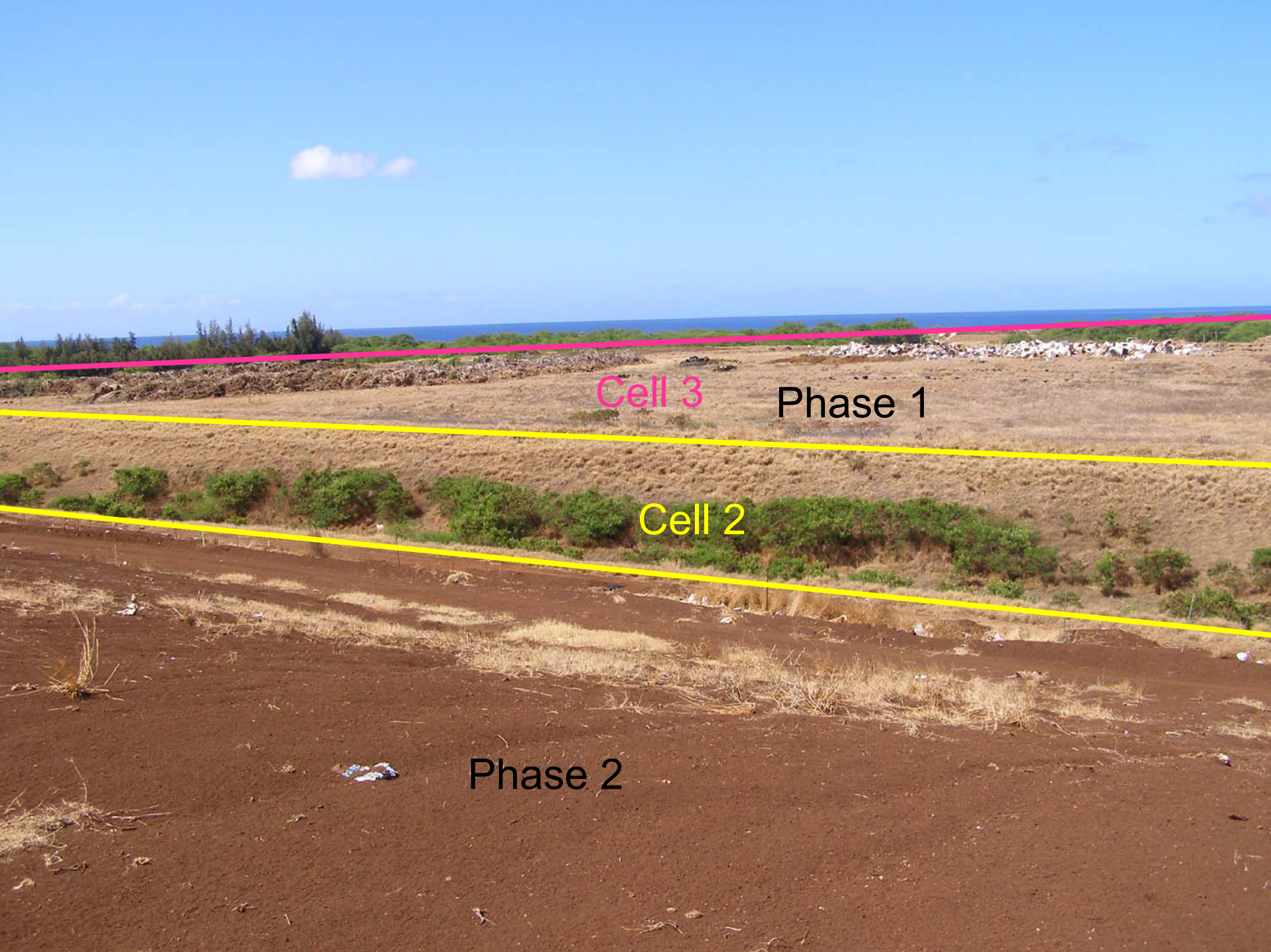


Cell 3

Phase 1

Cell 2

Phase 2

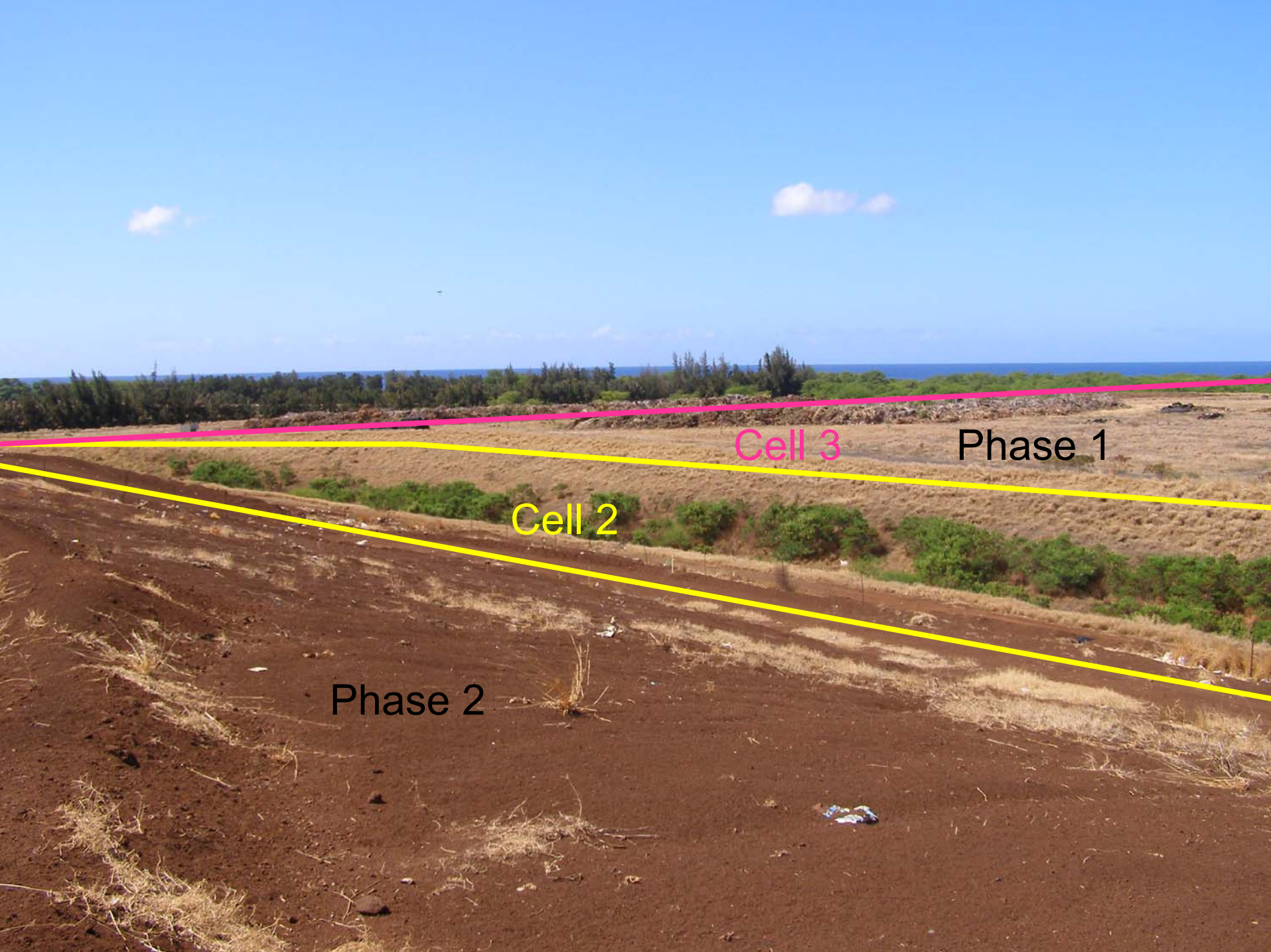


Cell 3

Phase 1

Cell 2

Phase 2



Cell 3

Phase 1

Cell 2

Phase 2



Infiltration
Pond

Leachate
Lagoon



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, Līhu'e, Hanamaulu)
 - ◆ Michael Layosa
 - ◆ Ted Inouye
 - ◆ Palmer Hafdahl
- East District (Wailua, Kapa'a, 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

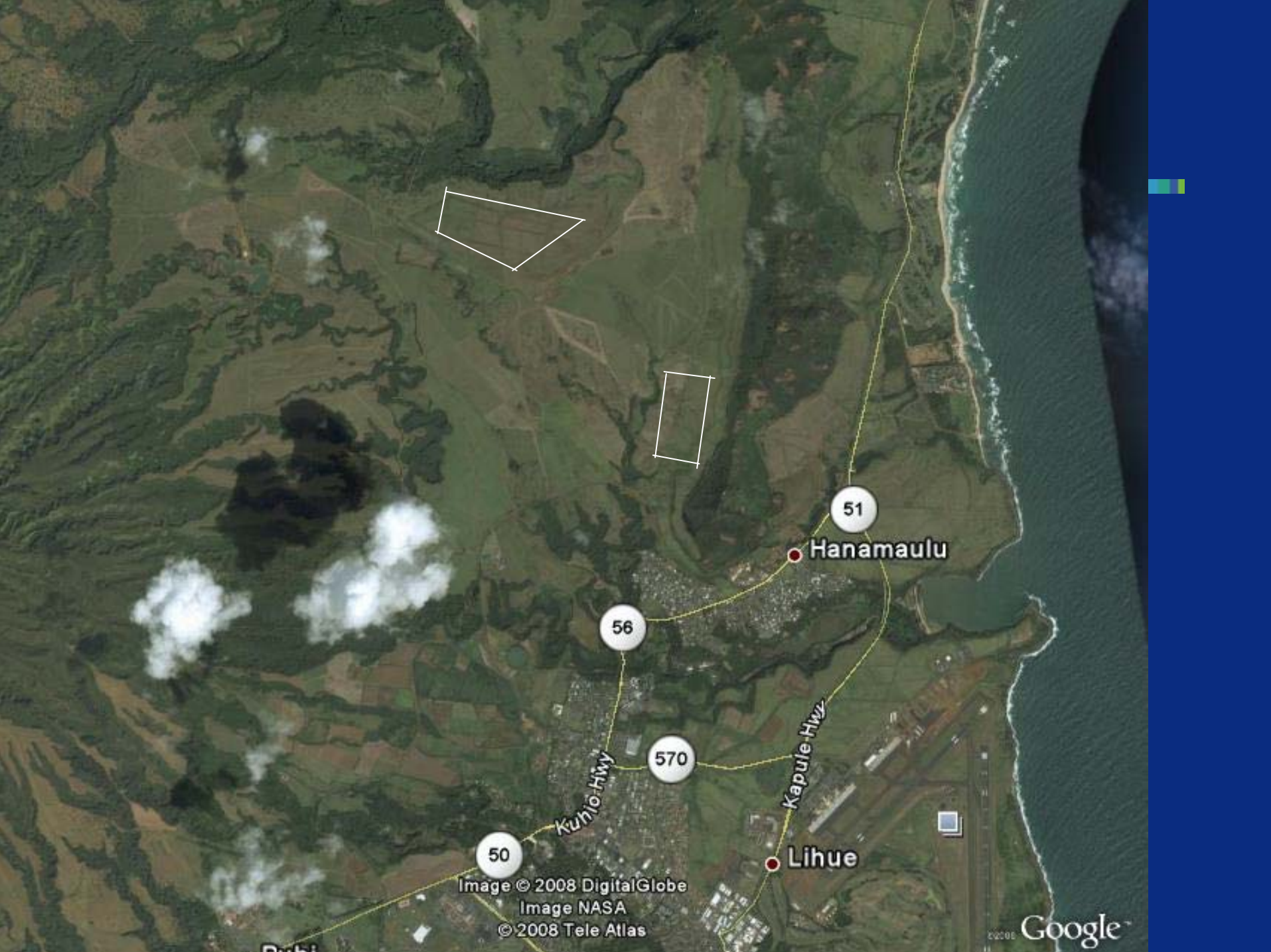


Double Blind Scoring Process

- 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.







51

Hanamaulu

56

Kuhio Hwy

570

Kapule Hwy

50

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Image NASA
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Lihue

Google

50

Puhi



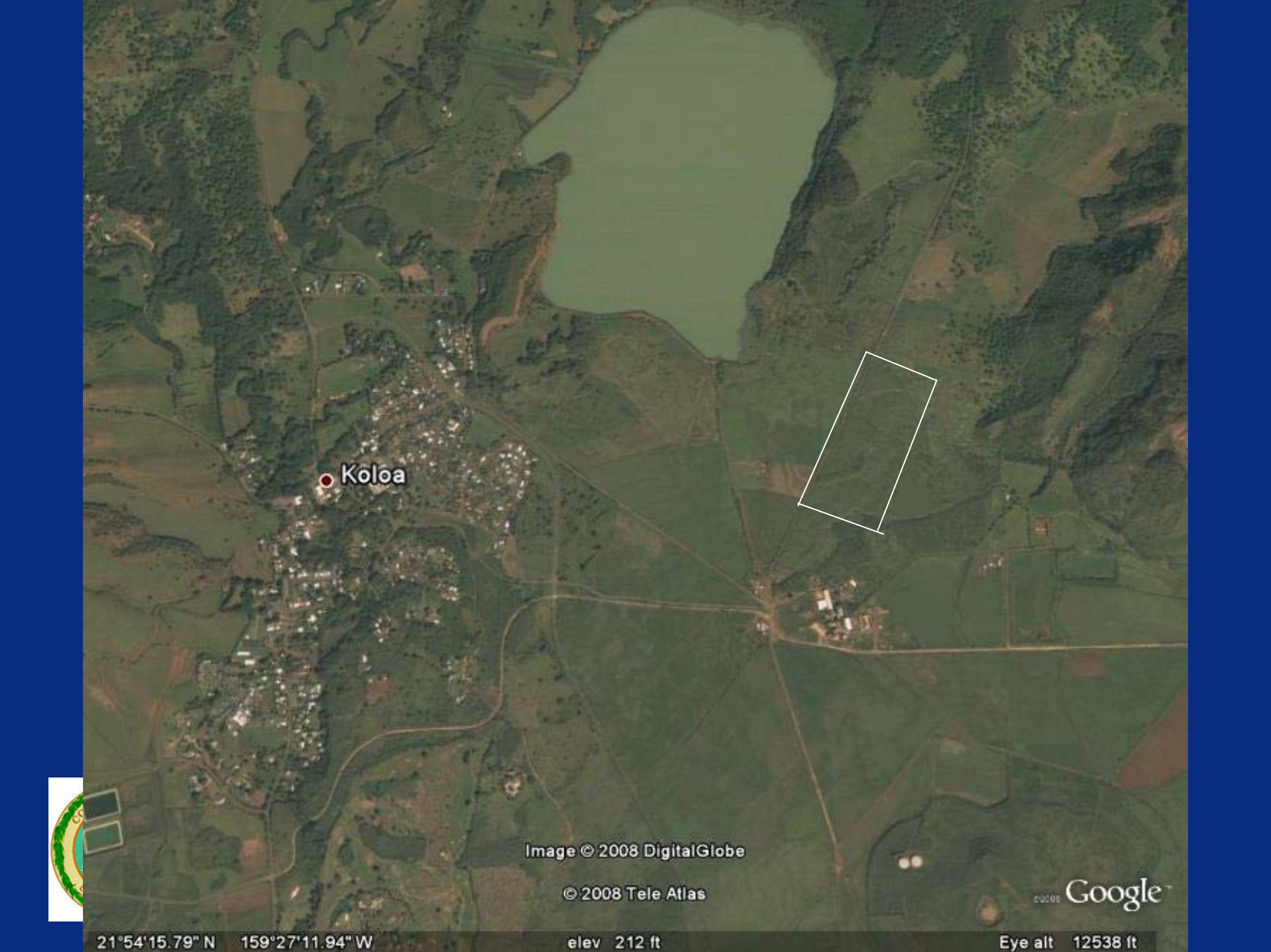
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21°57'40.09" N 159°25'37.24" W

elev. 402 ft

Eve alt 28138 ft



Koloa

Image © 2008 DigitalGlobe

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21°54'15.79" N 159°27'11.94" W

elev 212 ft

Eye alt 12538 ft



21°56'11.75" N 159°37'11.04" W

elev 236 ft

Eye alt 22837 ft

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Image NASA
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Google
Hanapepe 50



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Image NASA
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2008 Google

21°59'40.61" N 159°44'04.85" W

elev 14 ft

Eye alt 34853 ft

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

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241-4838
- Allison Fraley
Solid Waste Program Coordinator
241-4837







AUG 3 2007



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Questions?

