

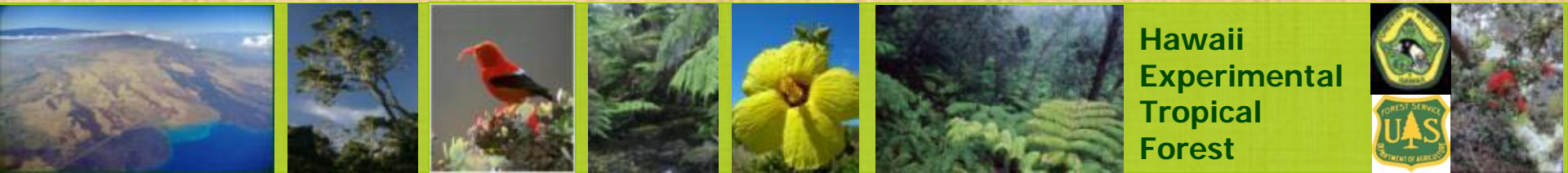
# Hawaii Experimental Tropical Forest (HETF)

## Laupahoehoe Construction Project Draft Environmental Assessment

Public DEA Meeting – July 20, 2011

*Public Comment Period: July 8 – August 6*





# AGENDA

- Introductions
- Presentation
- Group Questions
- Information Stations
- Closing

Public DEA Meeting – July 20, 2011



# HETF Background

- **1992:** The Hawaii Tropical Forest Recovery Act passed by Congress; Governor appoints a task force to determine how to implement the TFRA
- **1994 Action Plan:** Task Force spent over 1300 hours on public meetings and community field trips on all islands; public input used to develop the Action Plan
  - Action Plan Recommendation #17: Establish a **network of experimental forests** and associated facilities for permanent, science-driven research and training
- **Feb 2006:** DLNR Land Board recommendation to the Governor to establish Experimental Forests at Puu Waawaa and Laupahoehoe
- **March 2007:** HETF officially established via a Cooperative Agreement with the DLNR.
- **Today:** In the process of developing plans and implementing activities including research, education, and facility improvements

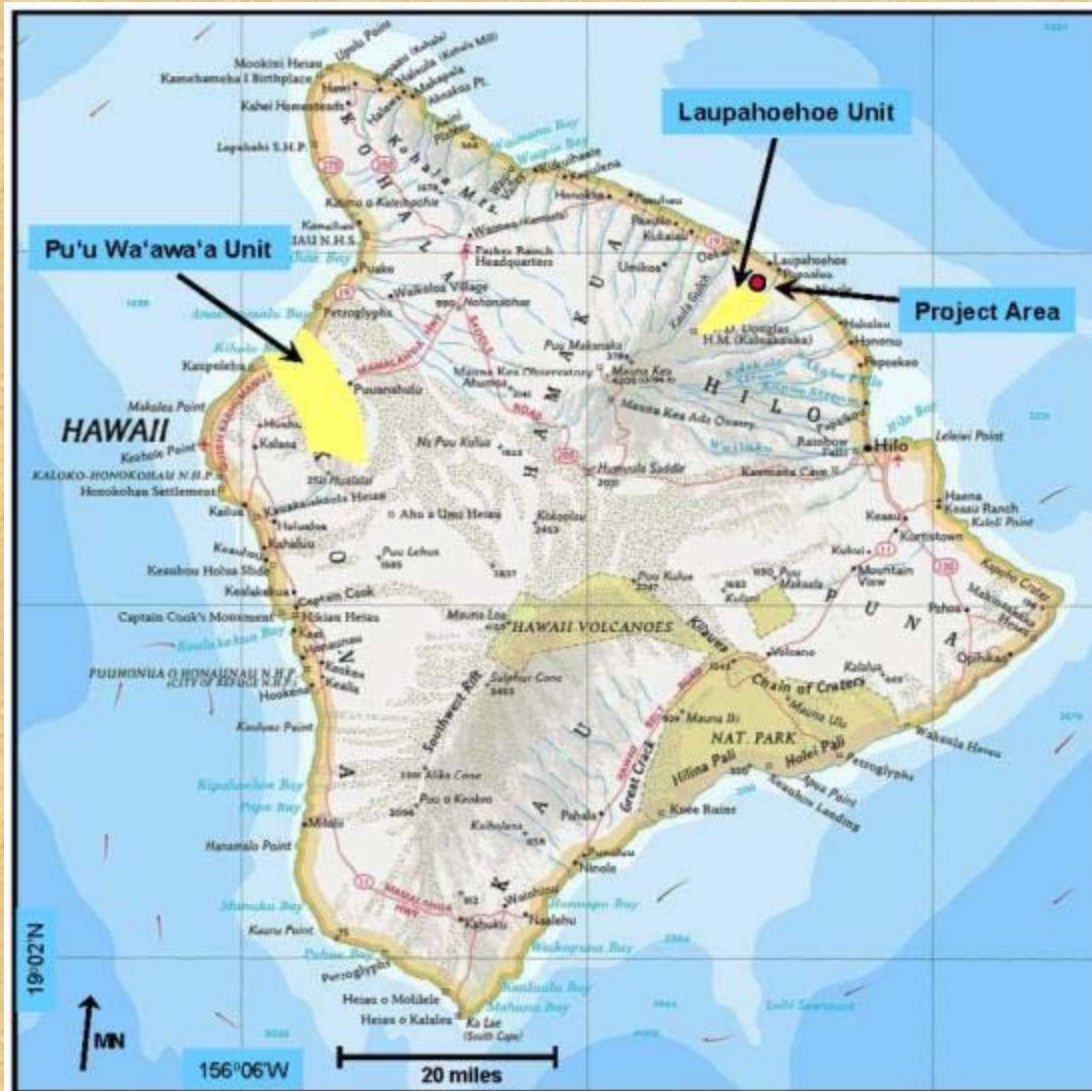


# HETF Vision

The HETF is an important research, education, demonstration forest where locally and globally relevant activities are conducted to benefit the people and ecosystems of Hawaii, all Pacific islands, and the tropical world

Facilities needed to achieve objectives and in support of research and education =  
Proposed Laupahoehoe Construction Project.

# HETF Locations & Management



Both experimental forest units are located on lands managed by the DLNR.

➤ Laupahoehoe Unit includes NAR and Forest Reserve land designations administered by DOFAW.

- 7,894 acres encompassing Laupahoehoe NAR
- 4,449 acres of Hilo Forest Reserve

➤ Puu Waawaa Unit, totaling 38,885 acres, includes Wildlife Sanctuary, Forest Reserve, and State Parks land designations administered by DOFAW and Division of State Parks, respectively.




# Laupahoehoe Construction Project Environmental Regulations

## ❖ **National Environmental Policy Act (NEPA)**

- Requires federal agencies to consider the potential environmental consequences of their proposals, to consult with other interested agencies, to document the analysis, and to make this information available to the public for comment before the implementation of the proposals.

## ❖ **Chapter 343 of the Hawaii Revised Statutes (HRS)**

- Establishes a system of environmental review at the state and county levels which shall ensure that environmental concerns are given appropriate consideration in decision making along with economic and technical considerations.



# Laupahoehoe Construction Project: Environmental Analysis Process

## Scoping

Public Comment period (30 days)

Submit written comments and include contact information



Written comments addressed/incorporated into draft EA

## Draft Environmental Assessment (EA)

Public comment period (30 days)



Written comments addressed/incorporated into final EA

## Final Environmental Assessment/Decision Notice

# Laupahoehoe Construction Project: Environmental Analysis Process

## Scoping

April 3- May 3

Submit written comments and include comments

Present overall project ideas  
& ask for feedback from the  
community for any additional  
considerations for analysis.  
Comments Received = 28  
Public meeting = 14

Written comments addressed/incorporated into draft EA

## Draft Environmental Assessment (EA)

Public comment period (30 days)

Written comments addressed/incorporated into final EA

## Final Environmental Assessment/Decision Notice

# Laupahoehoe Construction Project: Environmental Analysis Process

## Scoping

### **Public Comment Completed**

Submit written comments and include contact information

Written comments addressed/incorporated into draft EA


## Draft Environmental Assessment (EA)

Public comment period (July 8-August 6)

Written comments addressed/incorporated

## Final Environmental Assessment

Provide more detailed information including proposed alternative for further public comment & consideration when the final decision notice is being made.



# Laupahoehoe Construction Project: Overview of Components

**Purpose:** To provide facilities that will support HETF research, demonstration, and educational functions.

- 1. Laupahoehoe Administrative Site (LAS)**
- 2. Laupahoehoe Field Education Site (LFES)**
- 3. Laupahoehoe Unit Access**



# Project Component #1

## Laupahoehoe Administrative Site (LAS)

- ❖ Classroom/Meeting space for educational activities, presentations, public seminars, community events, etc.
- ❖ Accommodations for day and multi-day stays, for scientists, summer programs, educational/outreach activities, conferences, etc.
- ❖ Create opportunities for hands-on field experiences and skill development for students, teachers, and community members, internships and service projects.



# Project Component #2

## Laupahoehoe Field Education Site (LFES)

Space adjacent to the HETF to serve as:

- ❖ an outdoor classroom in an area with native plants
- ❖ support hosted field trips into the forest including schools community groups, etc.
- ❖ create space for kid friendly activities
- ❖ provide rest room facilities



# Project Component #3

## Laupahoehoe Unit Access

- ❖ Access to the Laupahoehoe Unit is currently via Manowaiopae Homestead Rd. (MHR) and roads on Kamehameha School (KS) lands.
- ❖ Access is the primary difference among the alternatives considered in this analysis; differ based on cost, feasibility, efficiency, and benefit to the community.



# Laupahoehoe Construction Project: Benefits to the Community

## Short Term – Construction Phase

- Construction employment
- Economic benefits to local businesses from workers



# Laupahoehoe Construction Project: Benefits to the Community

## Short Term – Construction Phase

- Construction employment
- Economic benefits to local businesses from workers

## Long Term – Post Construction

- Enhanced education opportunities for local students, teachers and school programs
- Access opportunities through hosted field trips, etc.
- Student exposure to career possibilities in natural resources
- Economic benefits to local businesses - researchers, and students working in the Forest
- Road improvements/safety
- Employment opportunities are likely to continue in response to research and education needs such as:
  - Professional (scientists, teachers), Technical (lab techs, field techs, IT), Labor (maintenance)



# Laupahoehoe Construction Project Analysis

- 1. Alternative #1**
- 2. Alternative #3 - preferred**
- 3. Alternative #2**
- 4. Environmental effects**
- 5. Activities considered but not included**



# Project Alternative #1

## ➤ **Alternative # 1 = no action**

- No construction of new structures
- No ground disturbing activities would take place

# Project Alternative #1

## ➤ **Alternative # 1 = no action**

- No construction of new structures
- No ground disturbing activities would take place

- Access to LFES would require high clearance 4WD vehicle
- Inadequate facilities to accomplish objectives for education and scientist support
- Greater commuting time due to current road conditions for regularly scheduled field work; greater distance for persons utilizing the LAS (compared to Alternative #3)



# Laupahoehoe Construction Project Analysis

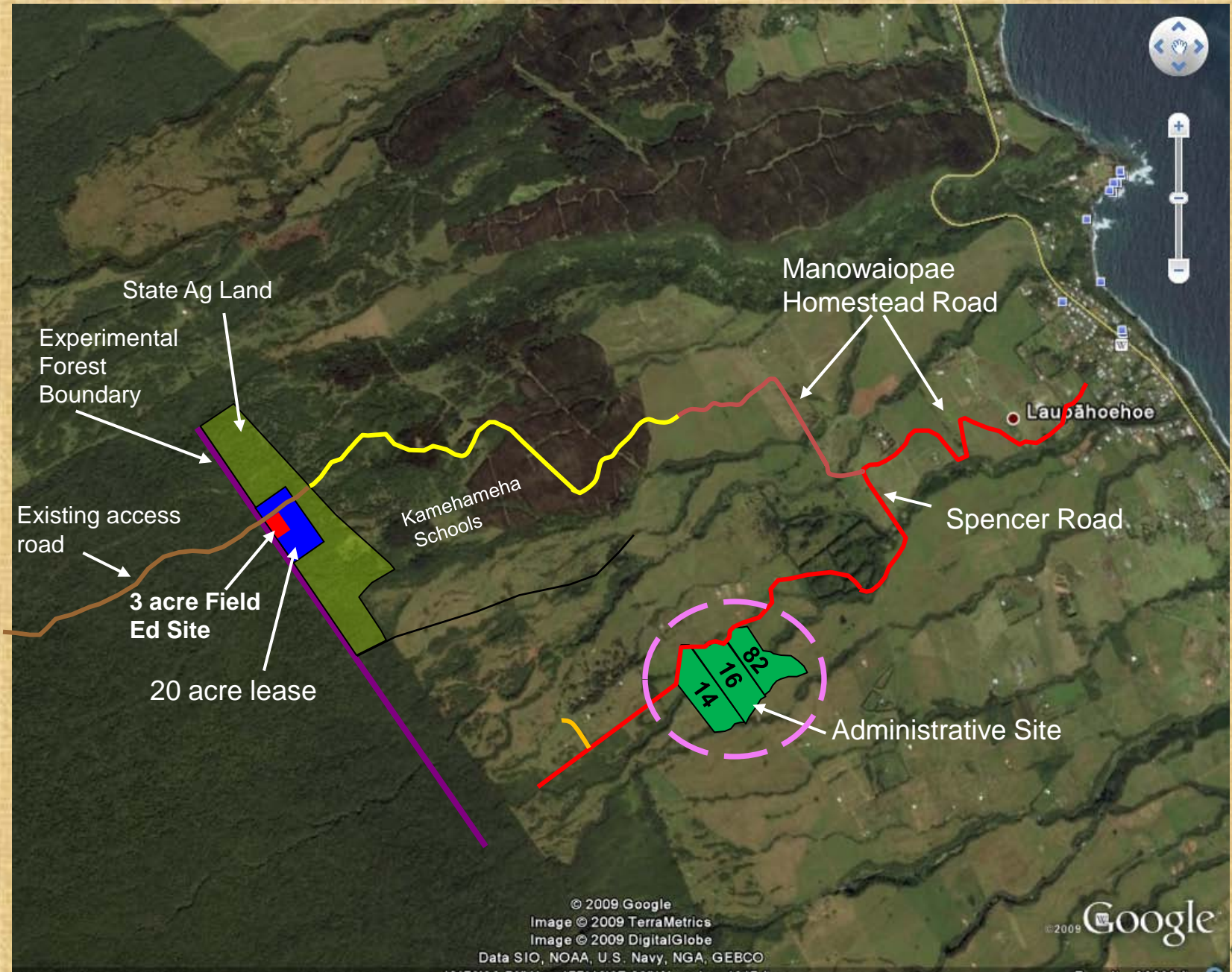
1. **Alternative #1**
2. **Alternative #3 - preferred**
3. **Alternative #2**
4. **Environmental effects**
5. **Activities considered but not included**



# Laupahoehoe Construction Project: Proposed Alternative (#3)

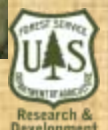
- 1. Laupahoehoe Administrative Site (LAS)**
- 2. Laupahoehoe Field Education Site (LFES)**
- 3. Laupahoehoe Unit Access**

# Laupahoehoe Administrative Site (LAS)



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Image © 2009 DigitalGlobe  
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

© 2009 Google



# Laupahoehoe Administrative Site (LAS)



Data SIO, NOAA, U.S. Navy, NGA, GEBCO

Image © 2011 DigitalGlobe  
Data SOEST/UHM

19°57'55.03" N 155°14'59.32" W elev 1448 ft

©2010 Google

Eye alt 2094 ft



Research & Development

# Laupahoehoe Administrative Site (LAS)



# Laupahoehoe Administrative Site (LAS)

Admin building back



Admin building front



Generator Building



Caretaker/Bunkhouse





# Laupahoehoe Administrative Site (LAS)

## Proposed New Construction:

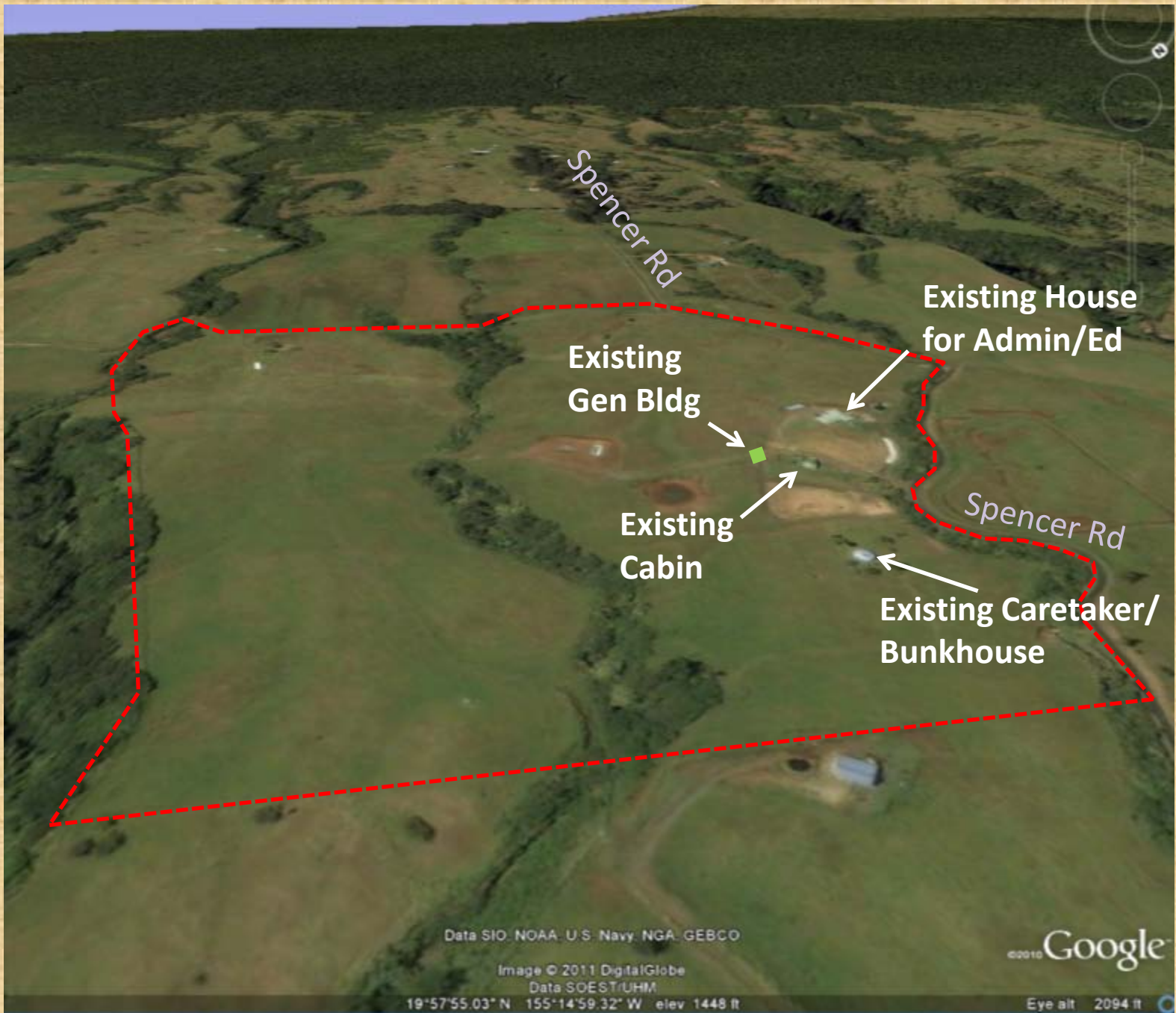
### Phase 1:

- ❖ Construction of 20-vehicle ADA compliant parking lot
- ❖ Construction of a garage/workshop
- ❖ Installation of new or retrofitted photovoltaic arrays (14 KW system) and related equipment (back-up generator, batteries)
- ❖ Construction of additional toilet building
- ❖ Expansion of septic tank and drainfield
- ❖ Existing driveway repair & new driveway construction
- ❖ Installation of improved water catchment, storage, and distribution
- ❖ Landscaping

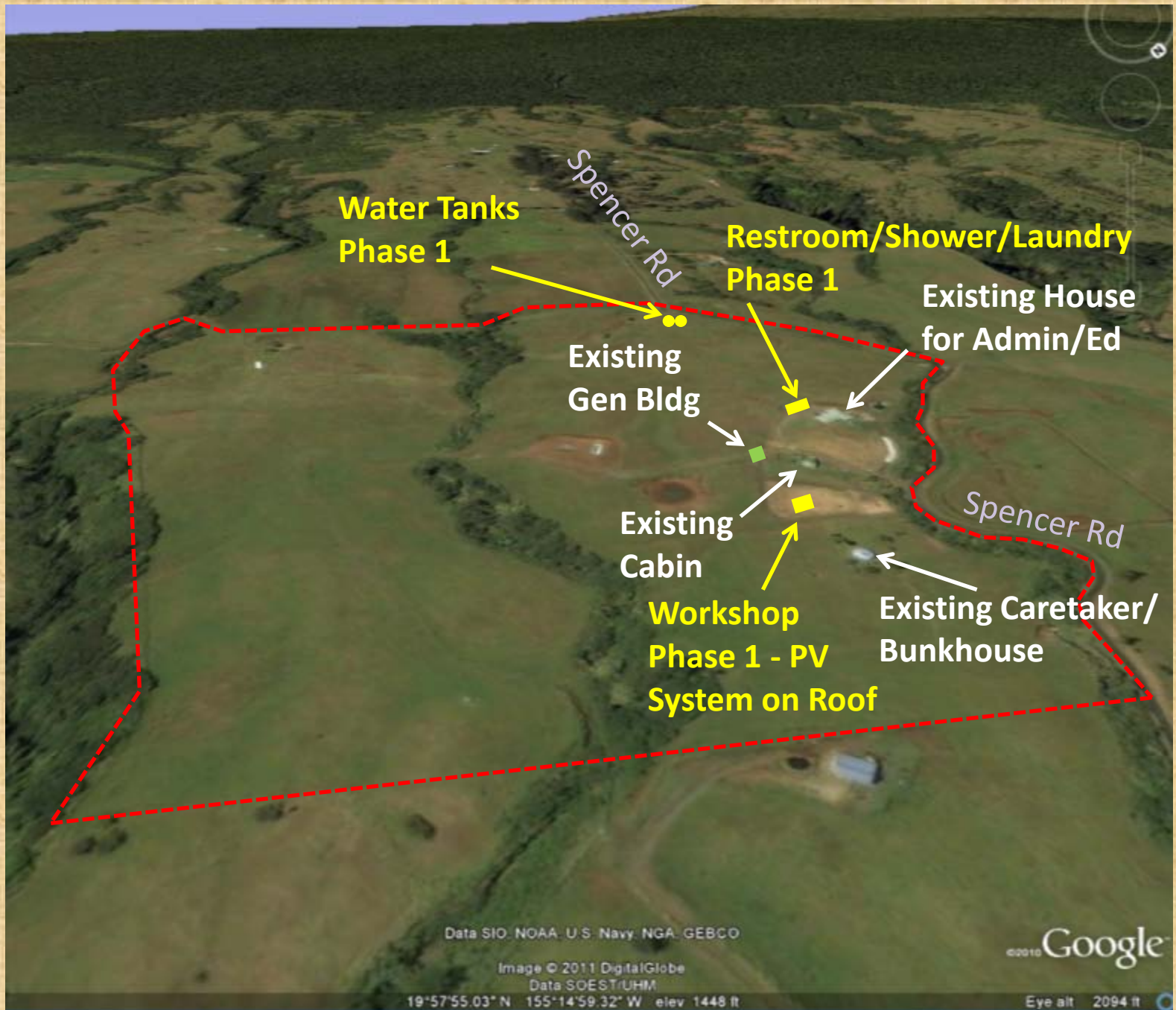
### Phase 2 & 3:

- ❖ Construction of 1 – 2 bunkhouse(s) - each 10 person capacity

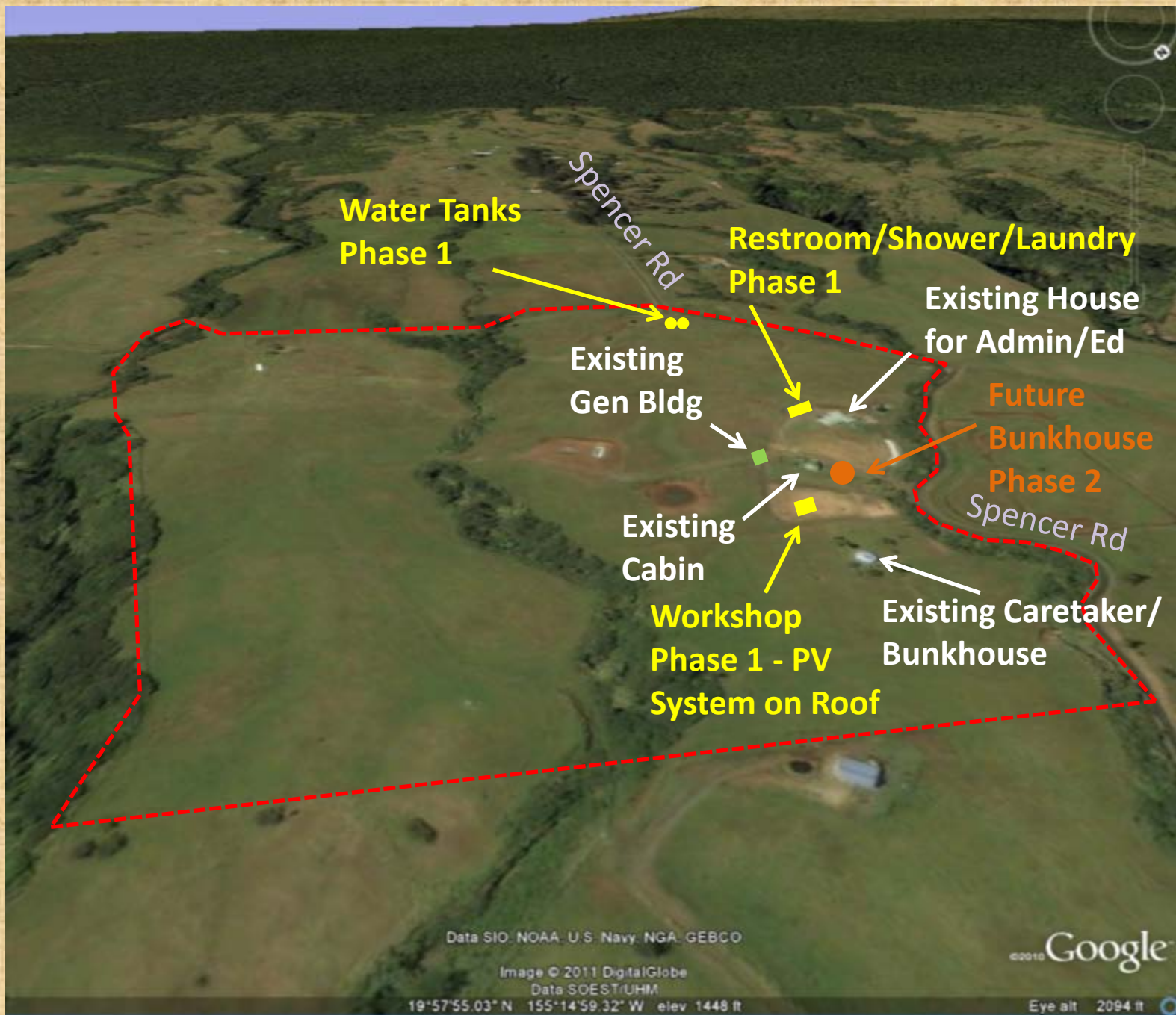
# Laupahoehoe Administrative Site (LAS)



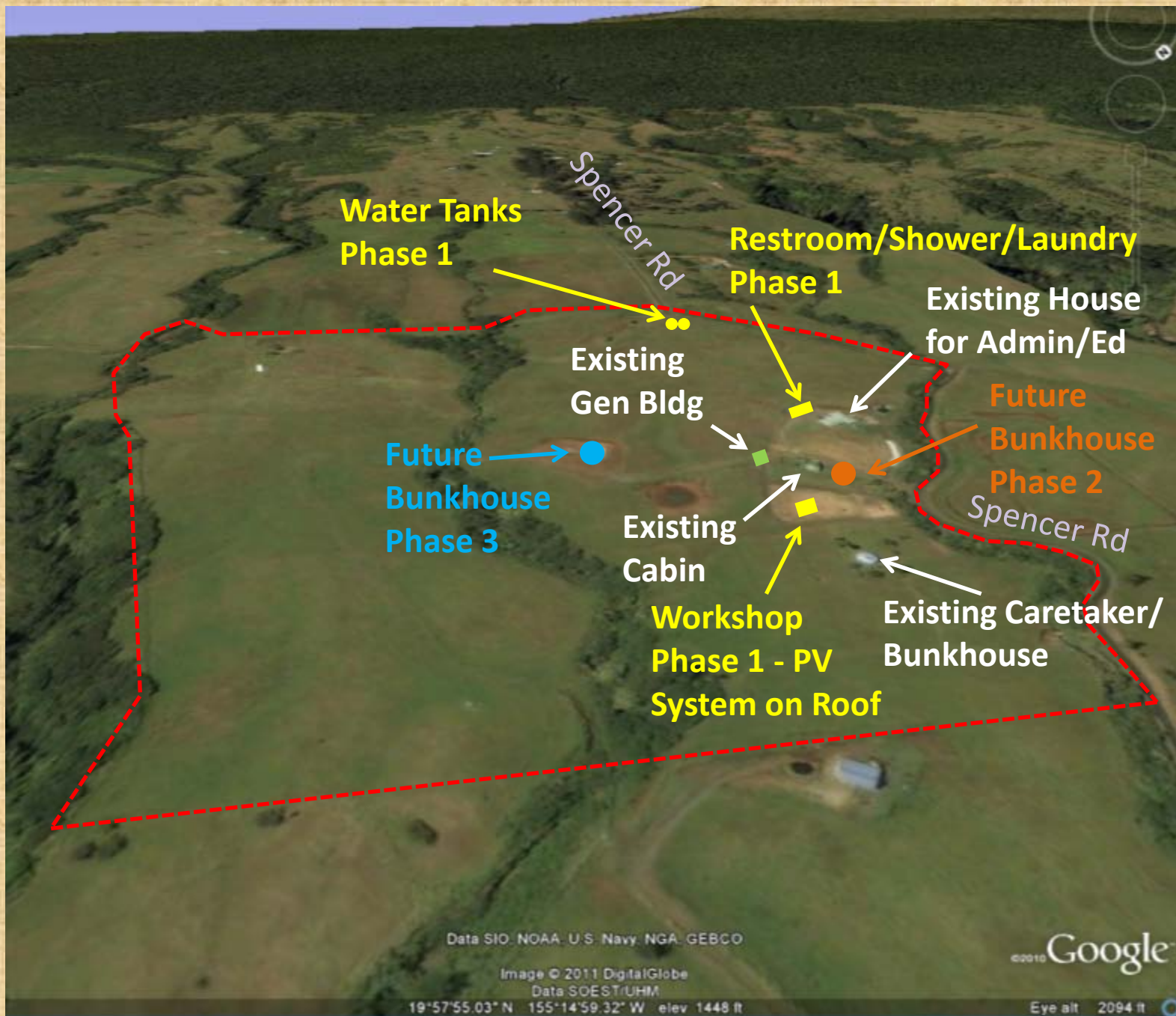
# Laupahoehoe Administrative Site (LAS)



# Laupahoehoe Administrative Site (LAS)



# Laupahoehoe Administrative Site (LAS)

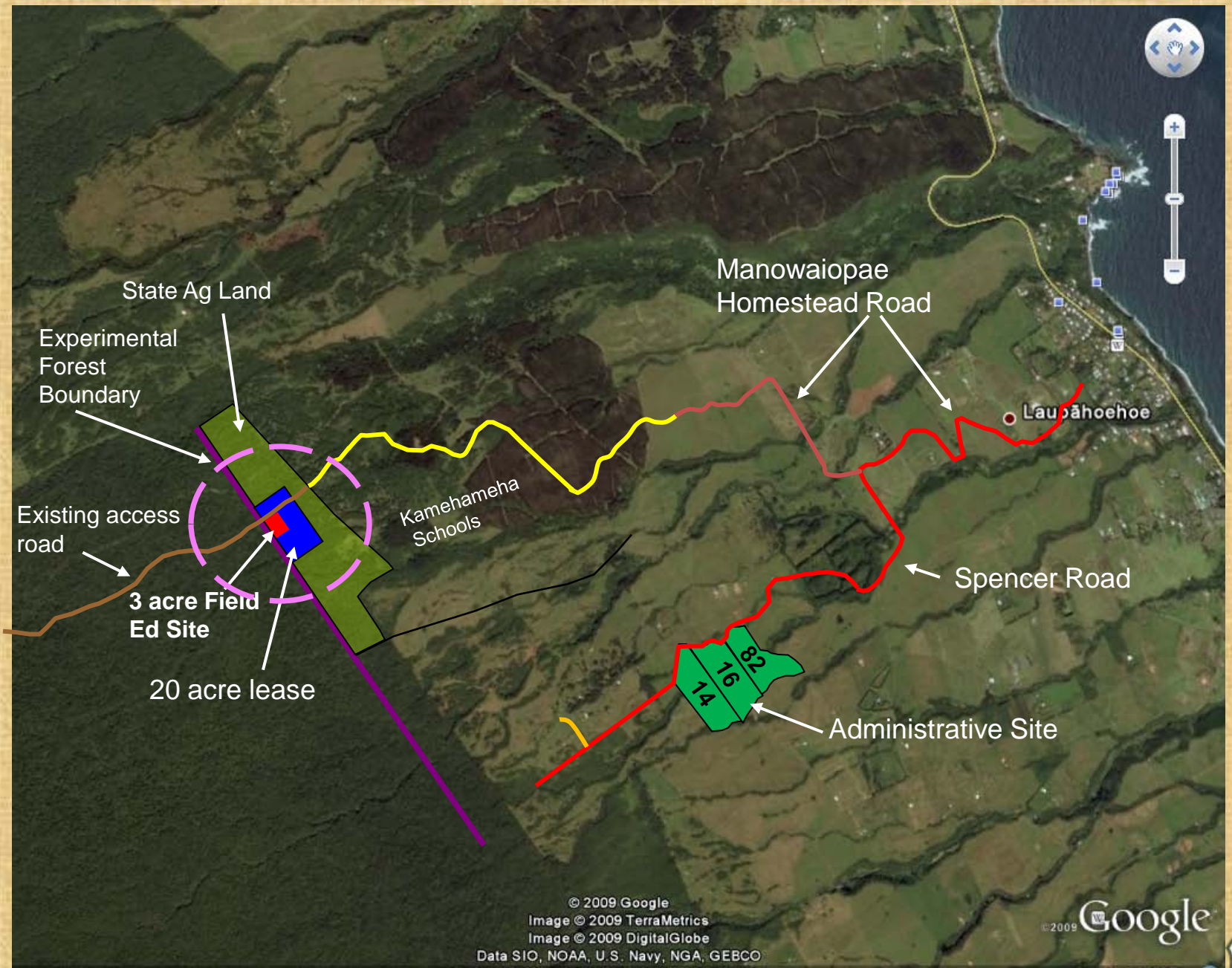




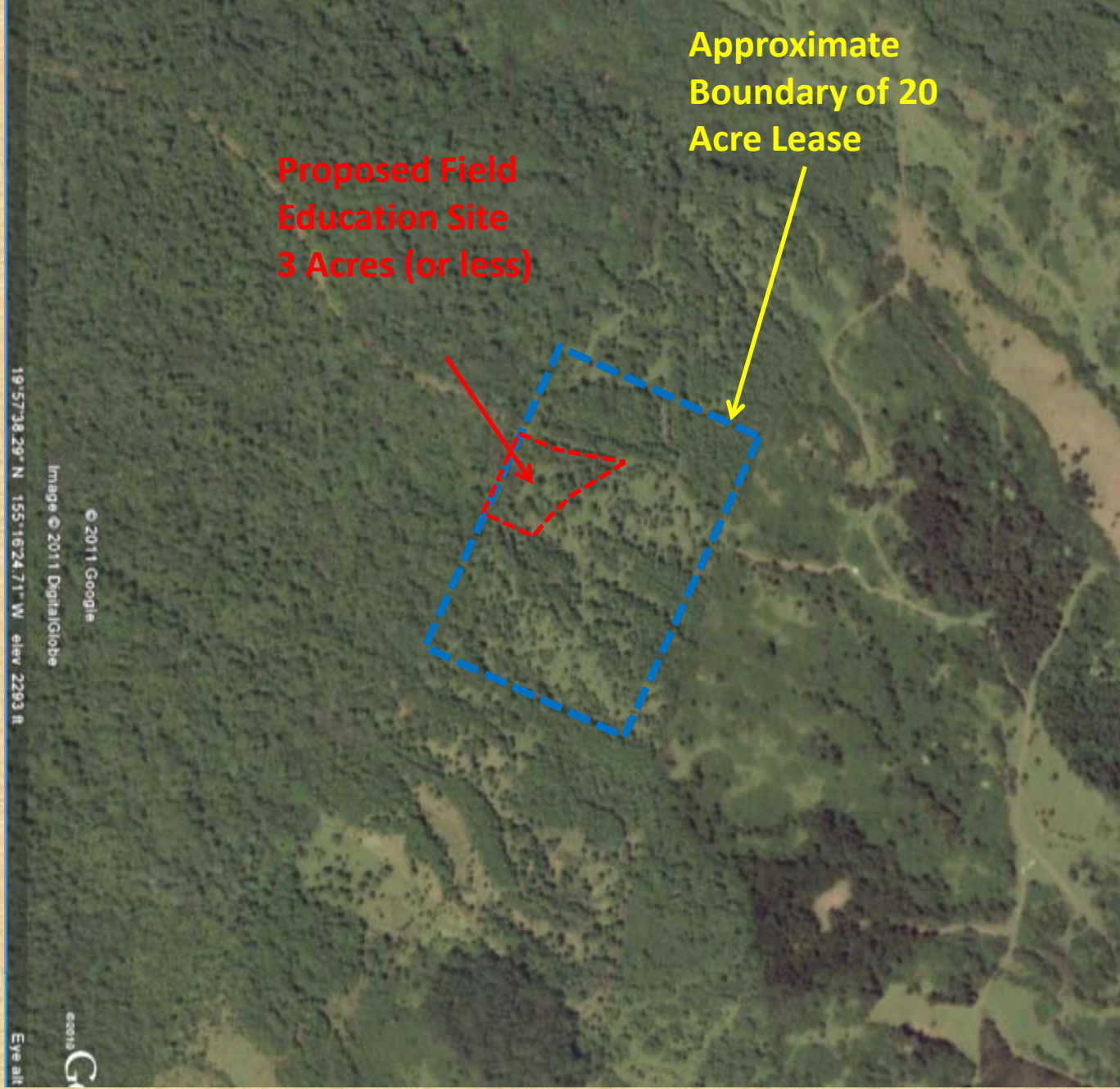
# Laupahoehoe Construction Project: Proposed Alternative (#3)

1. Laupahoehoe Administrative Site (LAS)
2. Laupahoehoe Field Education Site (LFES)
3. Laupahoehoe Unit Access

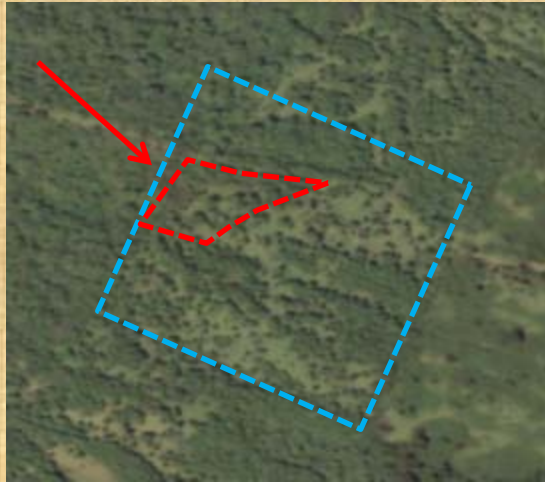
# Laupahoehoe Field Education Site (LFES)



# Laupahoehoe Field Education Site (LFES)



# Laupahoehoe Field Education Site (LFES)



## Proposed New Construction:

- ❖ Pavilion (with storage)
- ❖ 2 stall vault toilet facilities
- ❖ Driveway
- ❖ Parking lot (~ 10 vehicles)
- ❖ Gate and fencing around new facilities (~3 acres or less)
- ❖ Local materials and style used when possible



**NAR  
Boundary**

**Parking  
10 Vehicles**

**20' x 30' Pavilion**

**Vault Toilet**

**Fence**

Total fenced area ~ 3 acres

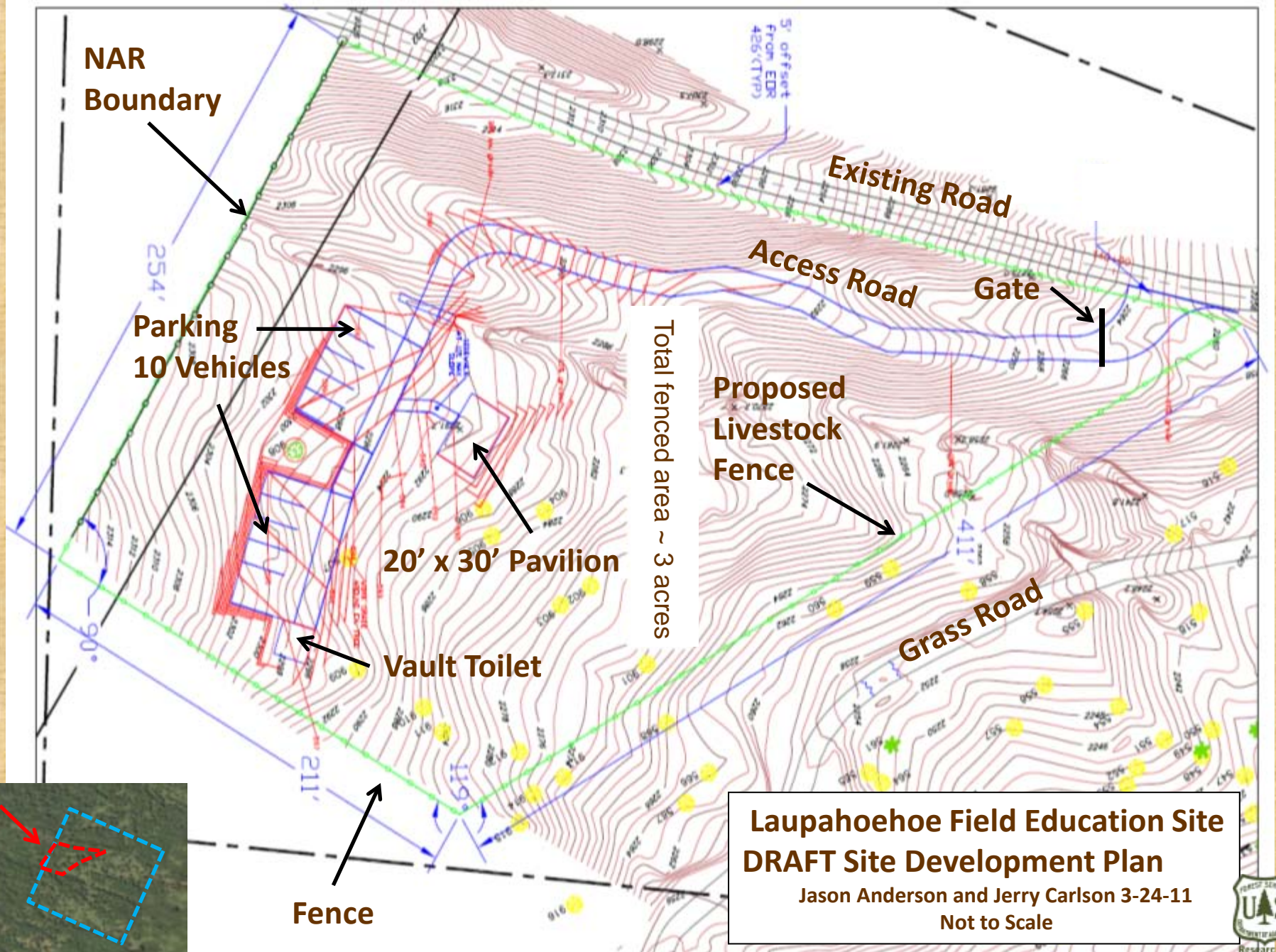
**Proposed  
Livestock  
Fence**

**Grass Road**

**Laupahoehoe Field Education Site  
DRAFT Site Development Plan**

Jason Anderson and Jerry Carlson 3-24-11

Not to Scale





# Laupahoehoe Construction Project: Proposed Alternative (#3)

1. Laupahoehoe Administrative Site (LAS)
2. Laupahoehoe Field Education Site (LFES)
3. **Laupahoehoe Unit Access**



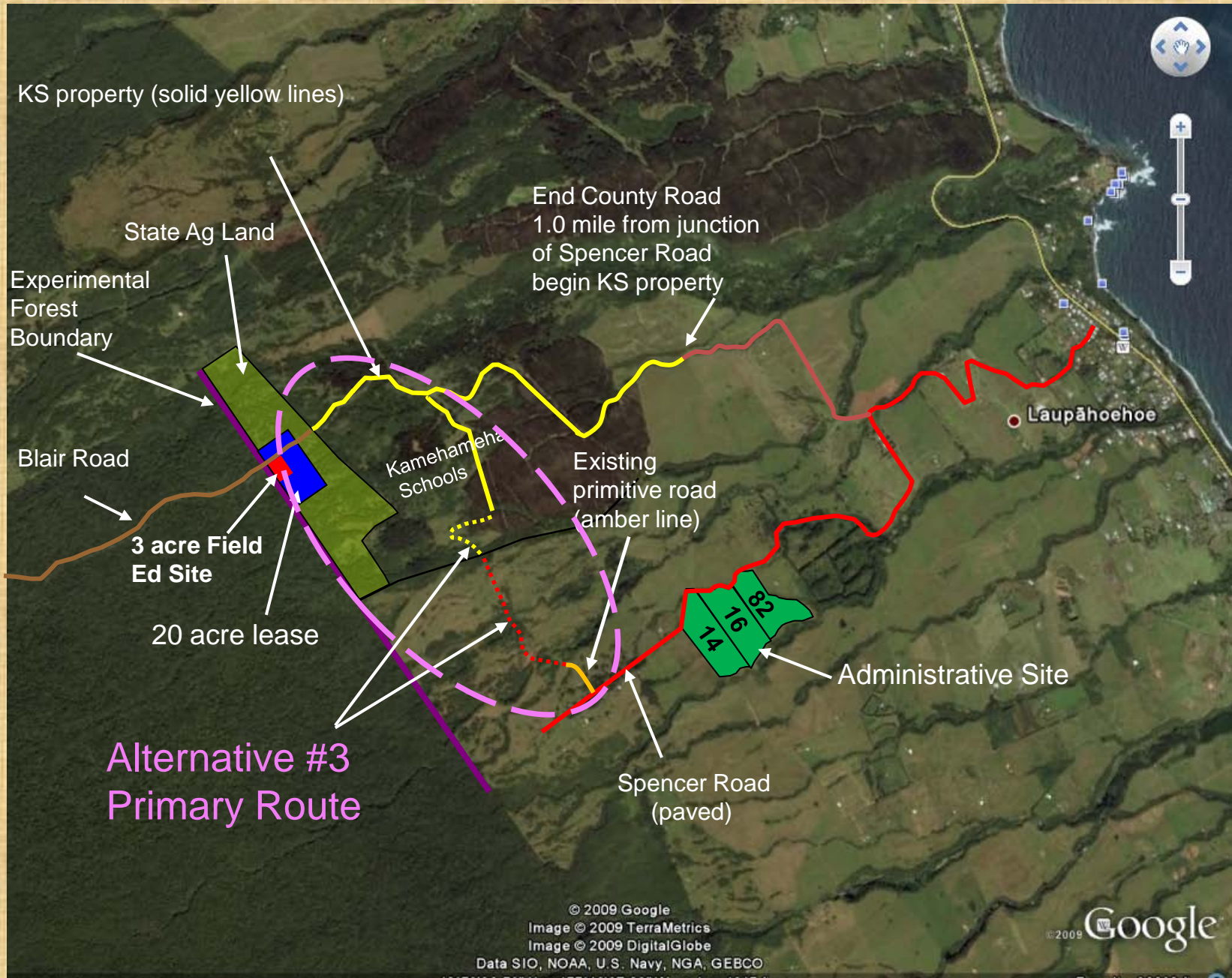
# Laupahoehoe Construction Project: Proposed Alternative (#3)

1. Laupahoehoe Administrative Site (LAS)
2. Laupahoehoe Field Education Site (LFES)
3. **Laupahoehoe Unit Access**

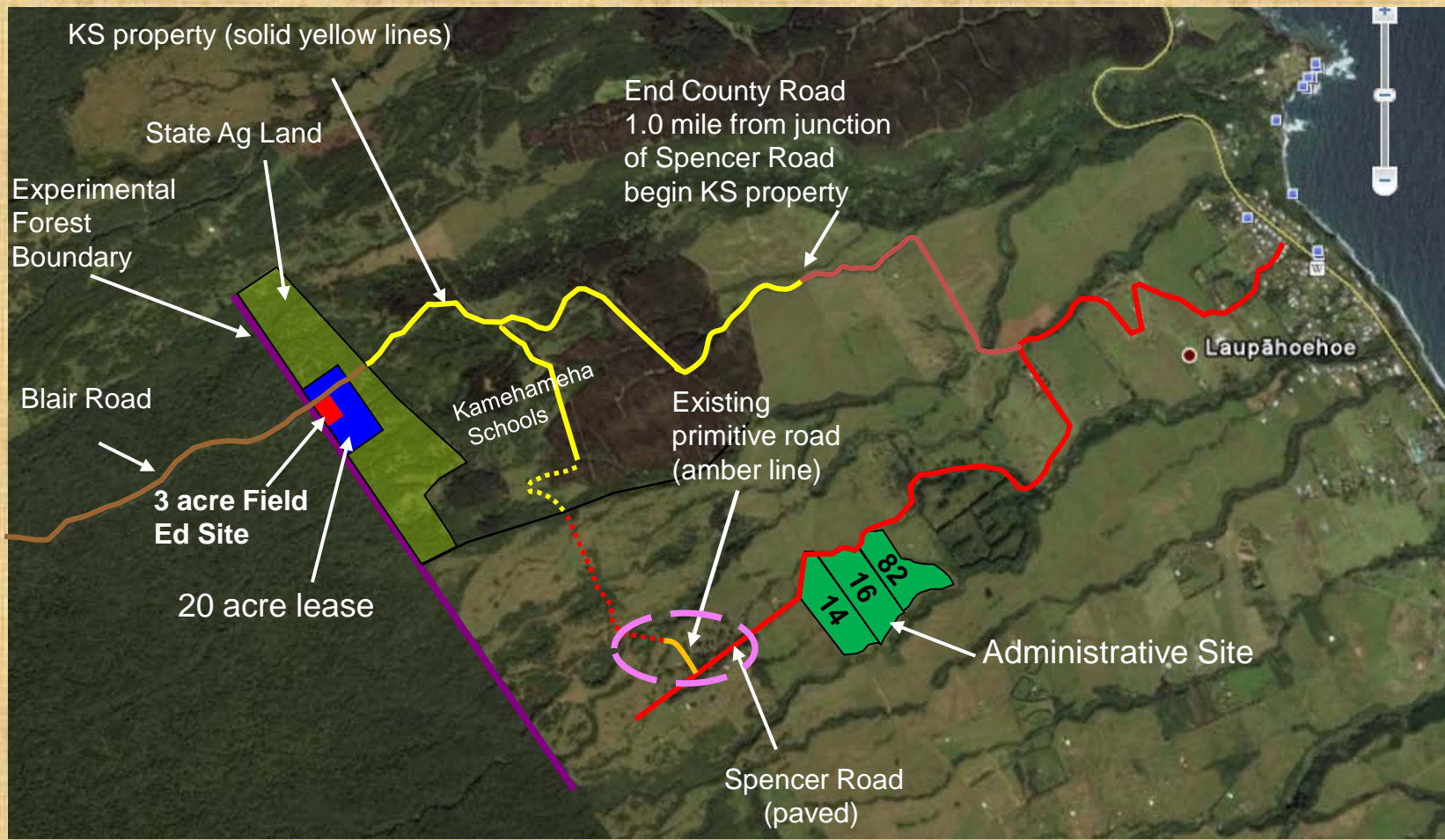
## Includes Primary and Secondary Access Routes:

1. Most advantageous route for the HETF
2. Beneficial to the HETF as well as improve road safety for the community

# Laupahoehoe Unit Access: ALT#3



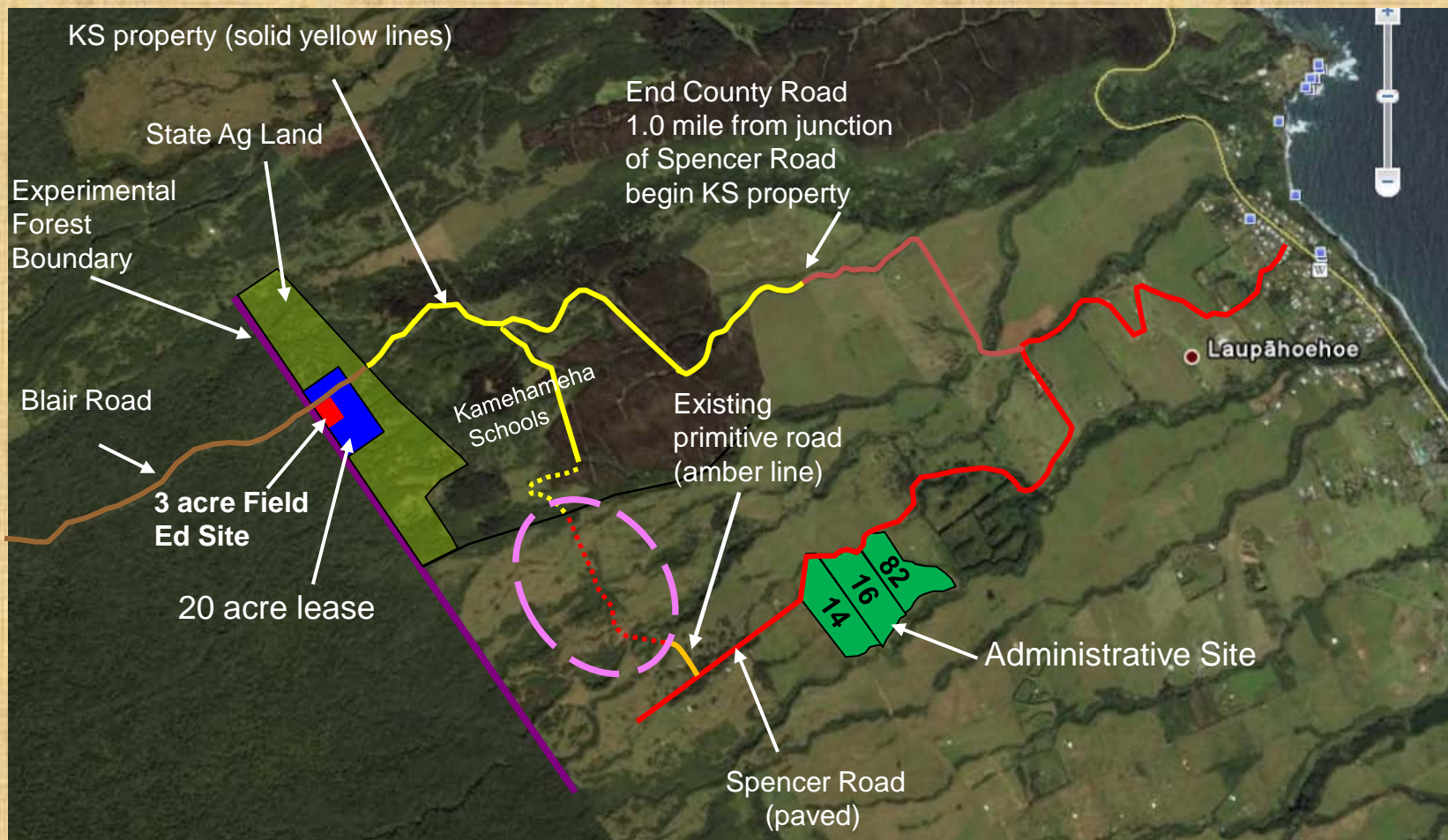
# Laupahoehoe Unit Access: ALT#3



## Primary Access Route: Existing primitive road:

- Upgraded to single lane with turnouts - gravel or pavement

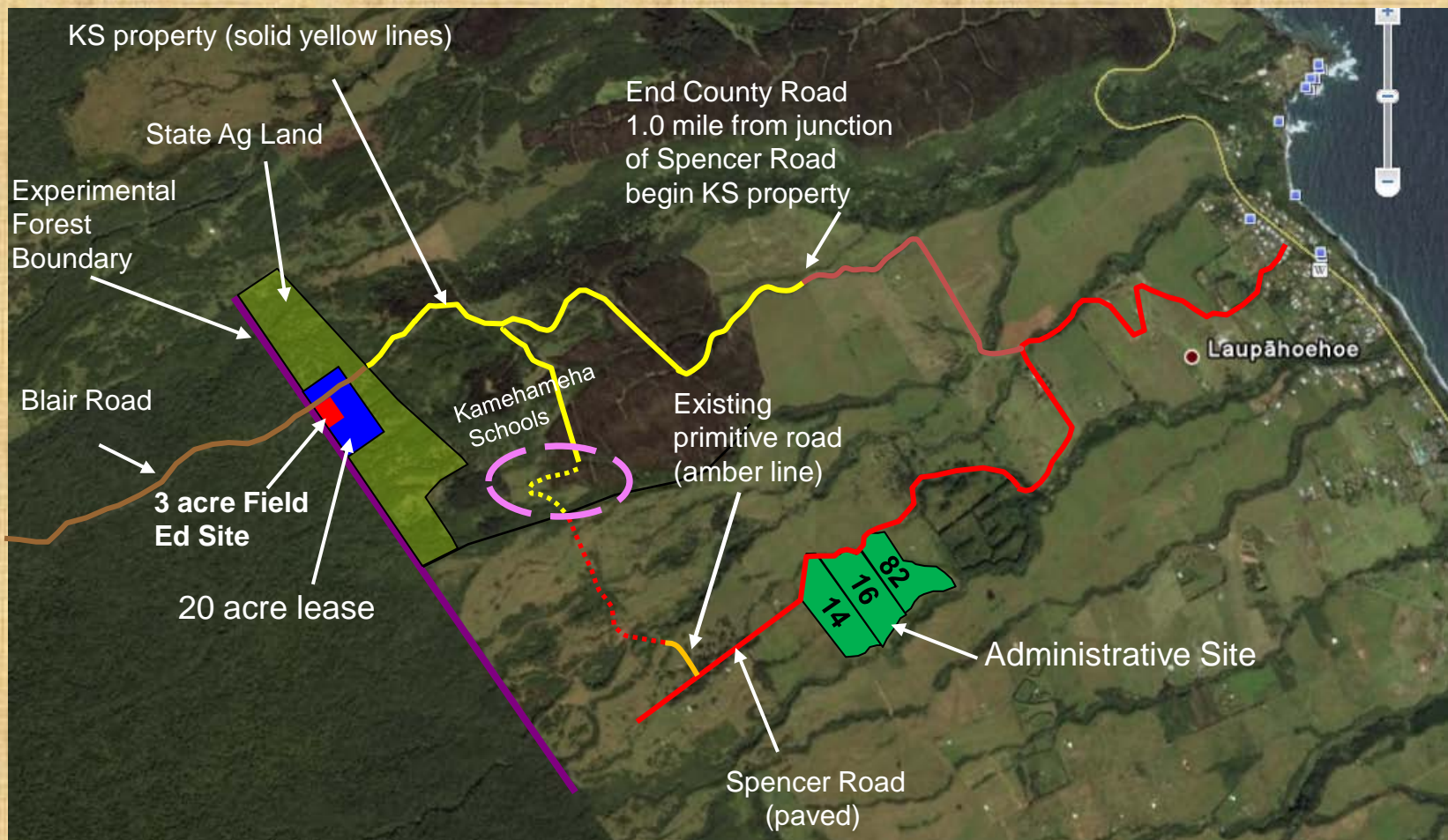
# Laupahoehoe Unit Access: ALT#3



## Primary Access Route: New construction in County R/W:

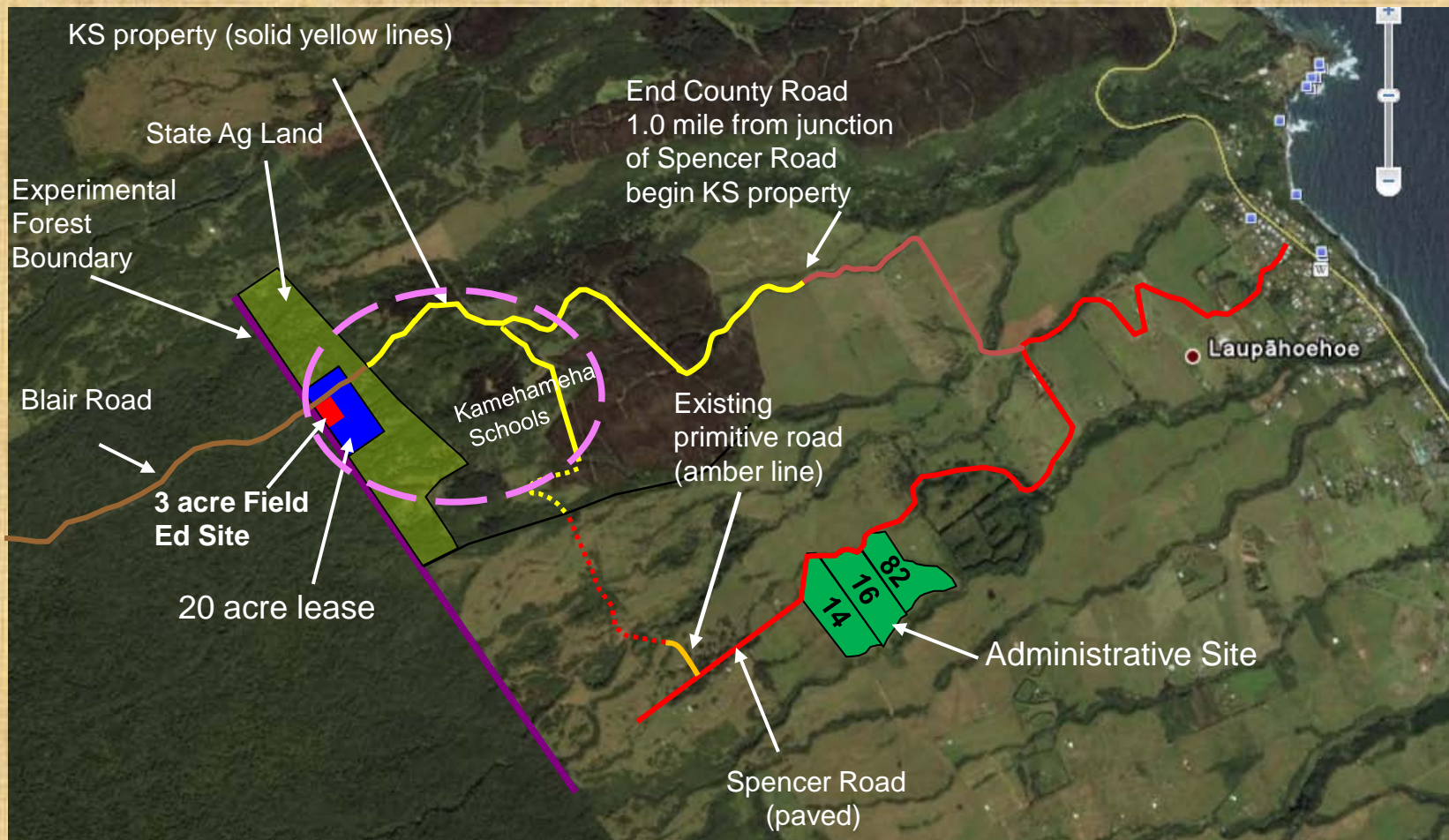
- Single lane with turnouts - gravel or pavement surfacing
- 3 stream crossings: likely accomplished with 1 low water crossing or open bottom pipe arch & 2 culverts

# Laupahoehoe Unit Access: ALT#3



## Primary Access Route: New construction on KS Land:

- Single lane road with turnouts with gravel surface
- 1 stream crossing: likely accomplished with large culvert or low water crossing



## Primary Access Route: Improvements to segments on KS and State lands:

- Small cuts and fill to reduce road grade steepness
- Installation of small drainage structures (dips) as needed
- Single lane road with turnouts & gravel surfacing as needed
- Vegetation management for safe lines of sight



# Laupahoehoe Unit Access

## Access to the Laupahoehoe Unit in Alternative #3

### Primary Access Route

- New Road Construction
  - In existing County Right of Way and on privately owned lands
- Reconstruction & Stabilization
  - Of portions of existing road (on KS and State leased portions)



# Laupahoehoe Unit Access

## Access to the Laupahoehoe Unit in Alternative #3

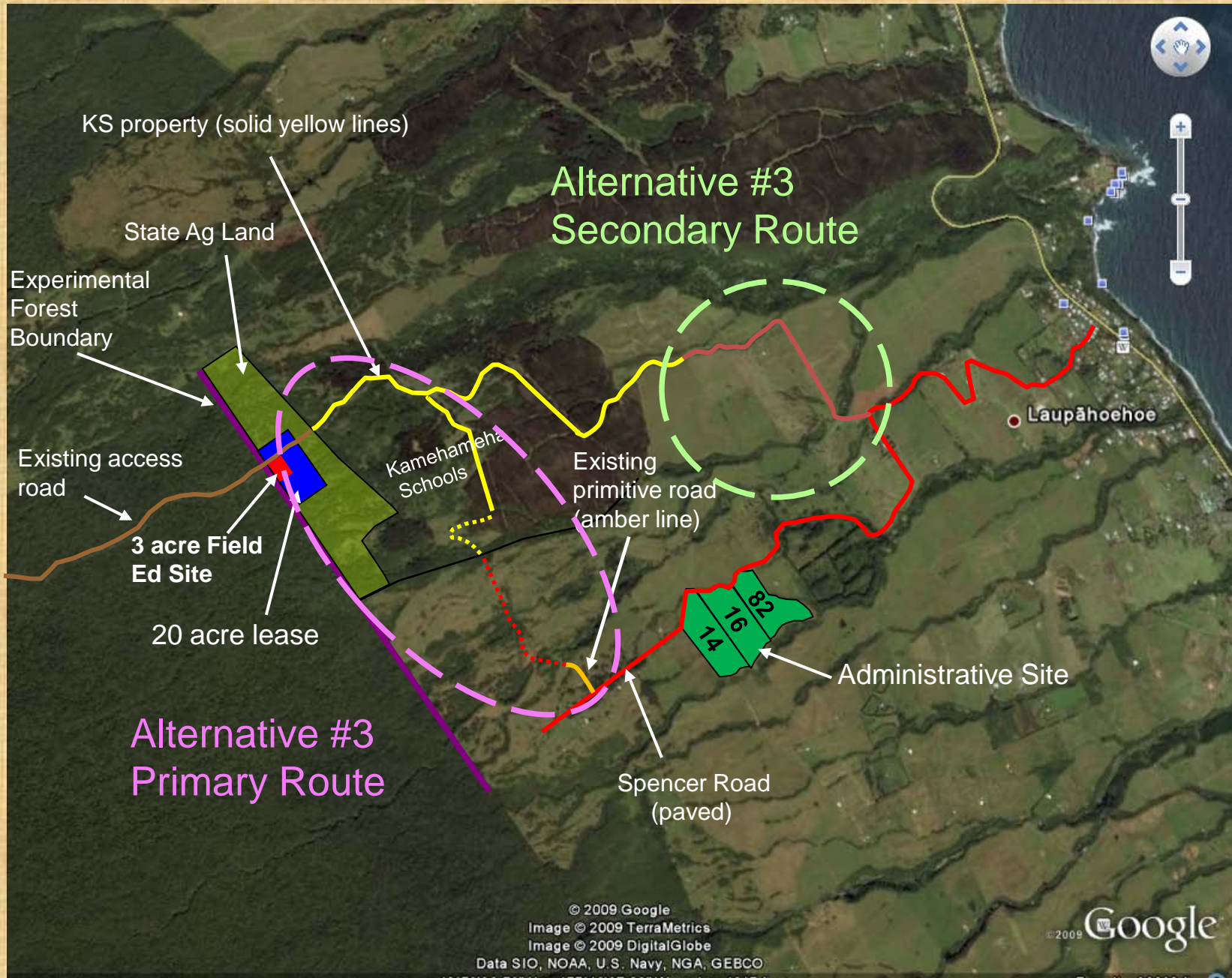
### Primary Access Route

- New Road Construction
  - In existing County Right of Way and on privately owned lands
- Reconstruction & Stabilization
  - Of portions of existing road (on KS and State leased portions)

### Secondary Access Route

- Road Repair & Initial mowing and brushing
  - On County 'road in limbo' portion of Manowaiopae Homestead Rd.

# Laupahoehoe Unit Access: ALT#3

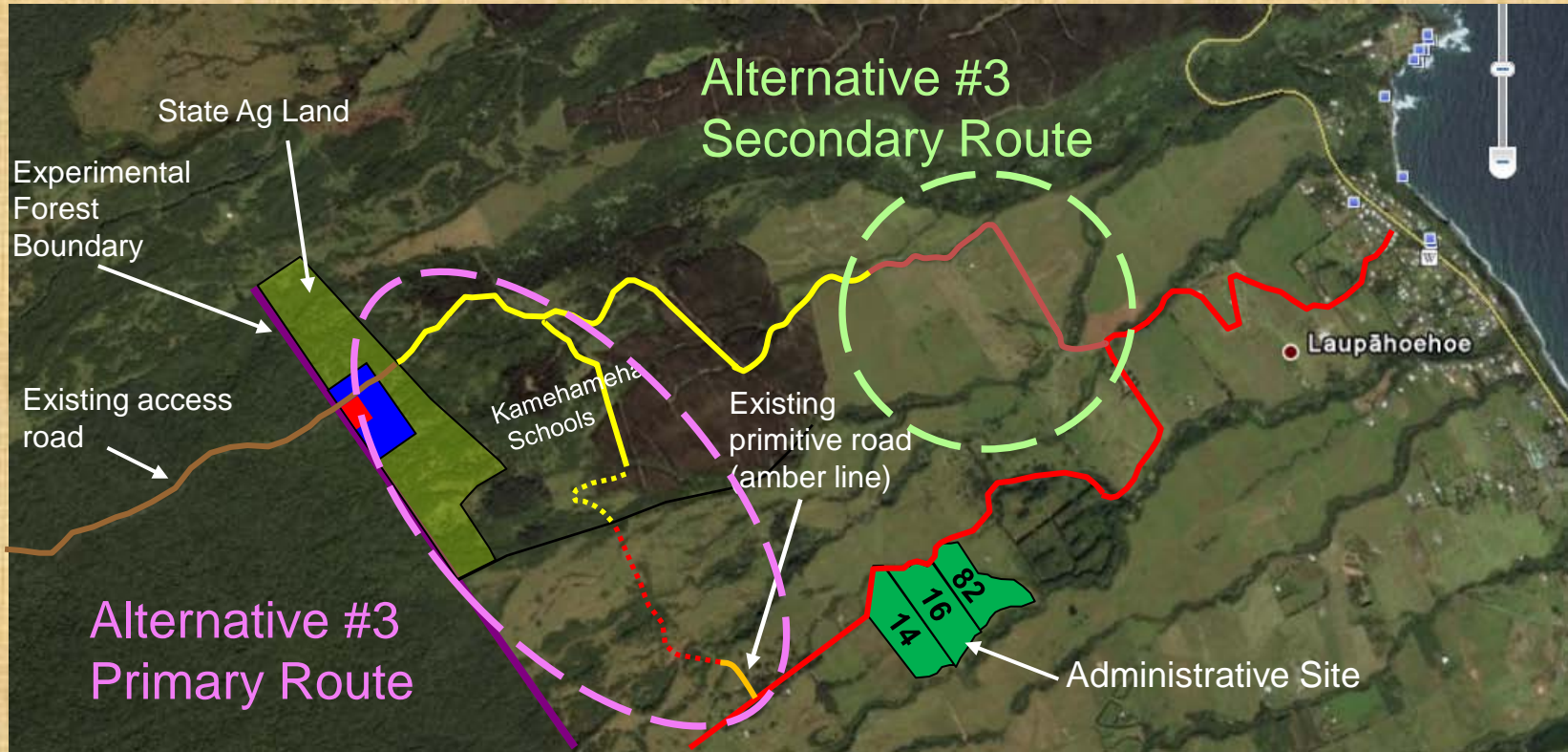


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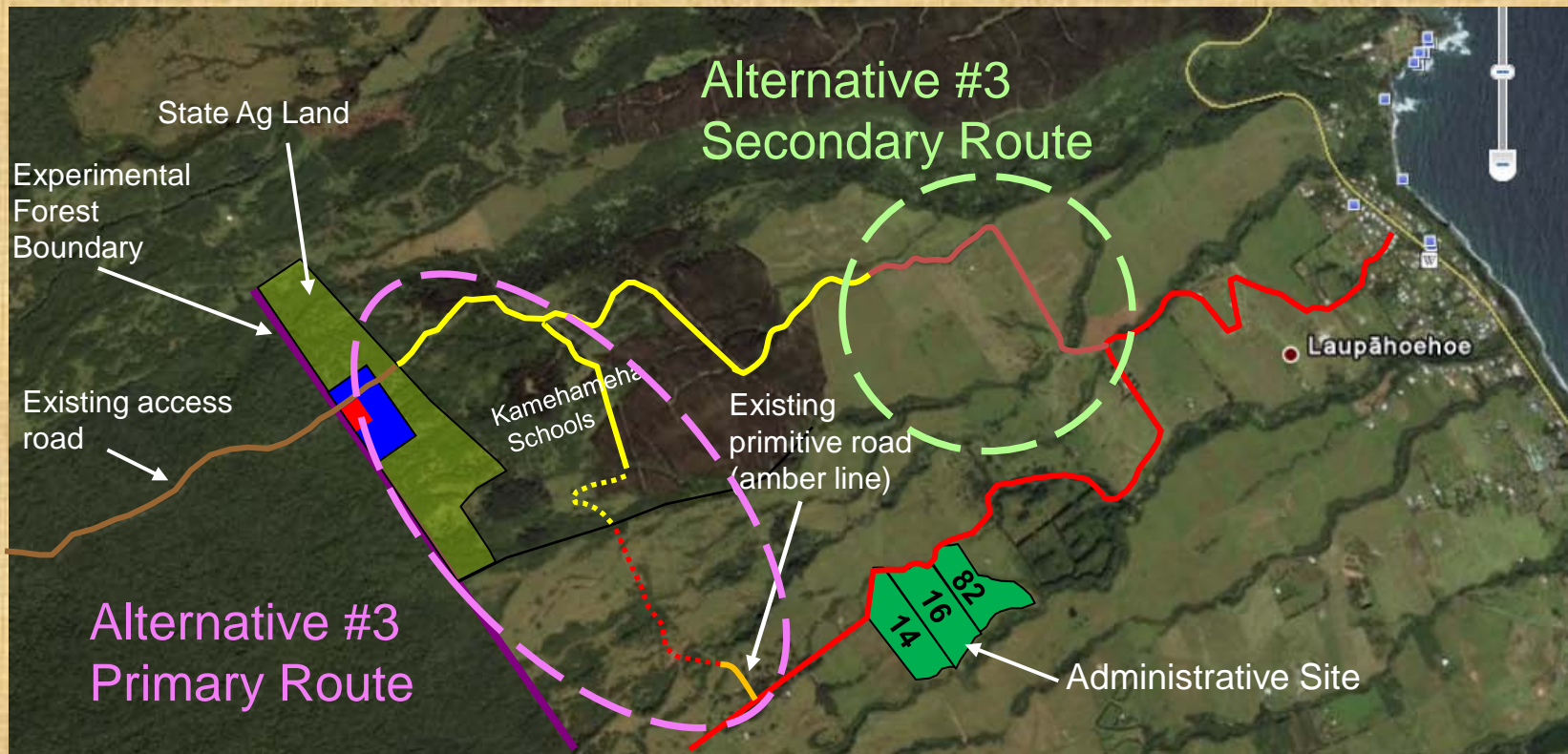
# Laupahoehoe Unit Access: ALT#3



## Secondary Access Route: Existing County Rd (Road in *Limbo*) Improvements:

- Repair low water crossing at Kapili Stream
- Some patching/repaving of existing roadway
- Vegetation management to provide safe lines of sight

# Laupahoehoe Unit Access: ALT#3



## Preferred Alternative :

- Provide gentler grade allowing access by high clearance 2WD vehicles
- More direct route to LFES & HETF
- Help facilitate the construction of a County Rd. surveyed 40 years ago which would serve 7 tax lots, 6 owners (totaling 265 acres)
- MHR: Improvements would provide safer secondary access
- Lower cost to government due to public private partnership



# Laupahoehoe Construction Project Analysis

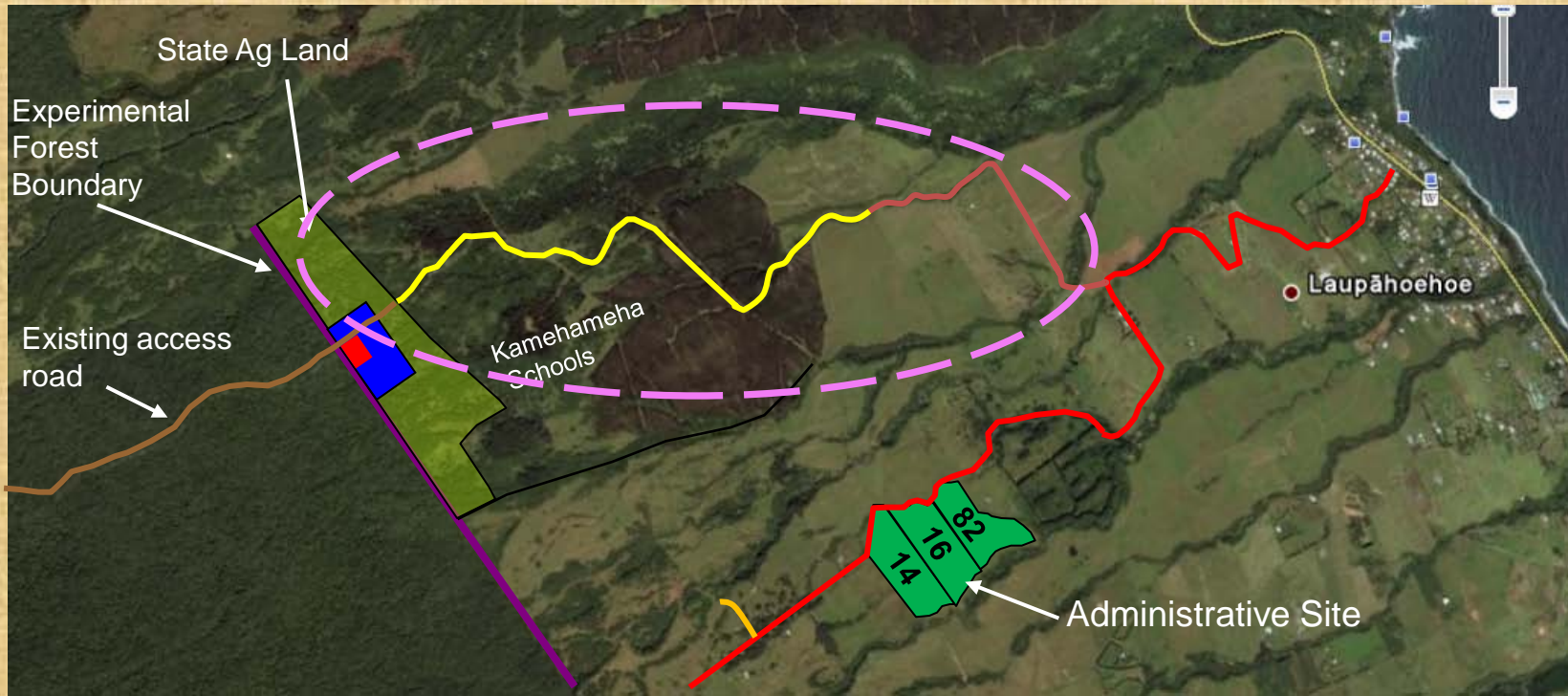
1. Alternative #1
2. Alternative #3 - preferred
3. **Alternative #2**
4. Environmental effects
5. Activities considered but not included



# Overview of other Project Alternatives

- **Alternative # 2 = improvements to existing access route**
  - LAS – same as Alternative #3
  - LFES- same as Alternative #3
  - Laupahoehoe Unit Access – different from Alternative #3

# Laupahoehoe Unit Access: ALT#2



## Existing County Rd (*Road in Limbo*) Improvements:

- Same as Alternative #3 but including bringing the bridge over Kilau stream up to County standard

## Improvements to segments on KS and State lands:

- Single lane road with turnouts & gravel surfacing as needed
- Small cuts and fill to reduce road grade steepness
- Installation of drainage structures (dips) as needed
- Vegetation management for safe lines of sight

# Overview of other Project Alternatives

## ➤ **Alternative # 2 = improvements to existing access route**

- LAS – same as Alternative #3
- LFES- same as Alternative #3
- Laupahoehoe Unit Access – different from Alternative #3

- Less direct route to LFES (via the Admin site)
- Higher cost to government



# Laupahoehoe Construction Project Analysis

1. **Alternative #1**
2. **Alternative #3 - preferred**
3. **Alternative #2**
4. **Environmental effects**
5. **Activities considered but not included**

# Laupahoehoe Construction Project: Determination of Effects

- ❖ Soils
- ❖ Hydrology & Water Quality
- ❖ Fauna (Wildlife)
- ❖ Flora
- ❖ Scenery
- ❖ Air Quality
- ❖ Noise
- ❖ Hazardous Substances
- ❖ Cultural & Archaeological
- ❖ Socioeconomic Characteristics
- ❖ Infrastructure (Roads and Facilities)

# Laupahoehoe Construction Project: Determination of Effects

- ❖ Soils
- ❖ Hydrology & Water Quality
- ❖ Fauna (Wildlife)
- ❖ Flora
- ❖ Scenery
- ❖ Air Quality
- ❖ Noise
- ❖ Hazardous Substances
- ❖ Cultural & Archaeological
- ❖ Socioeconomic Characteristics
- ❖ Infrastructure (Roads and Facilities)

Three resources identified to have impacts as designed based on applicable laws, regulations, and policies

# Laupahoehoe Construction Project: Environmental Effects

<b>RESOURCE</b>	<b>Alt. #1</b> No Action	<b>Alt. #2</b> LFES Access via Manowaiopae Homestead Road	<b>Alt. #3</b> LFES Access via New Road in County ROW and on Kamehameha Schools Lands
<b>SCENERY</b>	No effect	<ul style="list-style-type: none"> <li>▪ No effect to visual environment from road or properties to ocean.</li> <li>▪ No effect to visual environment within the eucalyptus plantation.</li> <li>▪ Major local, minor regional effect to the LFES visual environment</li> </ul>	<ul style="list-style-type: none"> <li>▪ Same as #2</li> <li>▪ Same as #2</li> <li>▪ Same as #2</li> <li>▪ Major, local, minor regional effect to the visual environment along the new road.</li> </ul>
<b>WILDLIFE</b>	No effect	<ul style="list-style-type: none"> <li>▪ No adverse effect to any Federally or State of HI listed species.</li> <li>▪ Minor, short term displacement of wildlife species along access roads during construction.</li> <li>▪ Some displacement of species from the facility sites.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Same as #2</li> <li>▪ Same as #2</li> <li>▪ Same as #2</li> <li>▪ Some long-term displacement of species from newly constructed access road.</li> </ul>
<b>NOISE</b>	No effect	<ul style="list-style-type: none"> <li>▪ Moderate, short-term effects from facility construction phase.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Same as #2</li> </ul>



# Laupahoehoe Construction Project Analysis

1. **Alternative #1**
2. **Alternative #3 - preferred**
3. **Alternative #2**
4. **Environmental effects**
5. **Activities considered but not included**

# Laupahoehoe Construction Project

## Activities considered but not included

### ➤ Vehicle Wash Station

- Voluntary use wash station would have little benefit considering invasive plant introduction via bird, pig and other animal droppings as well as wind; focus on roadside weed control on the access route.

### ➤ Electrical Transmission Lines/Public Utility

- Cost comparison to installation and maintenance of solar power with backup generator found to be similar; prefer to use renewable energy and in consideration of community desires

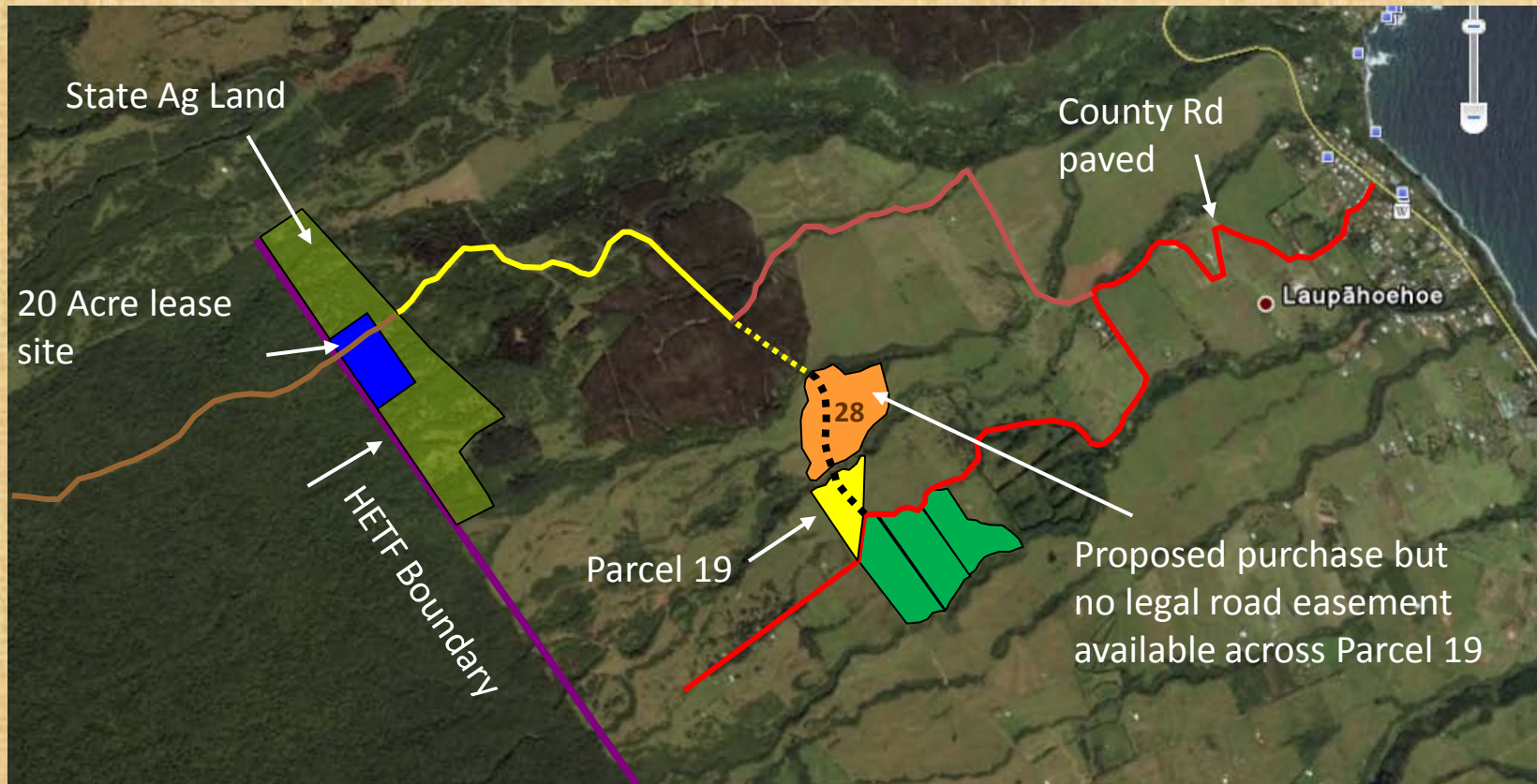
### ➤ Wind Turbines

- LFES = no power. Considering potential impacts to birds and bats focusing on solar at LAS.

### ➤ Access to HETF and LFES via North Road of LAS

# Laupahoehoe Construction Project

## Activities considered but not included



- Access to HETF and LFES via North Road of LAS



# Environmental Analysis Process: Next Steps

## Scoping

Comment Period Closed

Submit written comments and include contact information.



Written comments addressed/incorporated into draft EA

## Draft Environmental Assessment (EA)

Publication date = July 8

**Public comment period = July 8 – August 6**

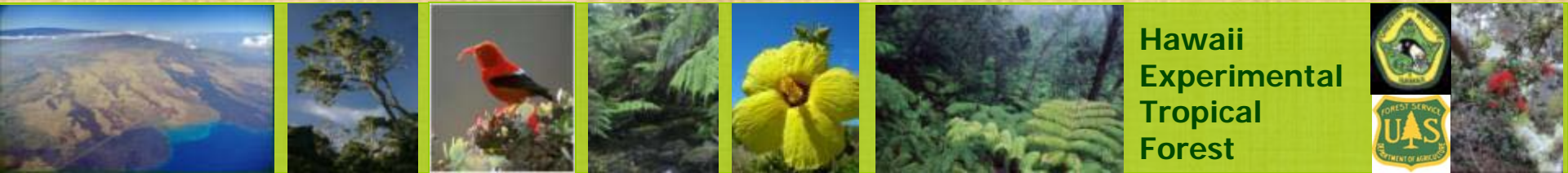


Written comments addressed/incorporated into final EA

## Final Environmental Assessment/Decision Notice

**Target publication date = September 8**

**Appeal period = September 8 – October 22**

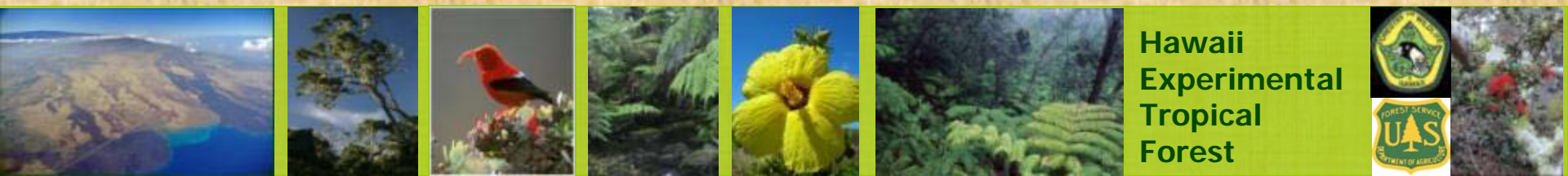


# AGENDA

- Introductions
- Presentation
- **Group Questions (15 minutes)**
- Information Stations
- Closing

Public DEA Meeting – July 20, 2011





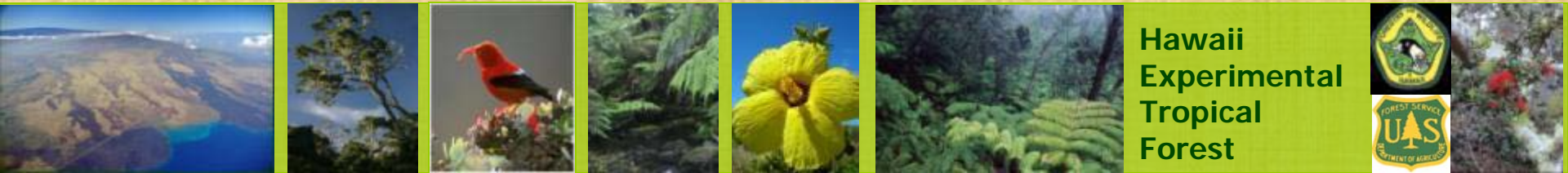
# AGENDA

- Introductions
- Presentation
- Group Questions
- **Information Stations (20 minutes)**
- Closing

- ❖ Access
- ❖ Facilities
- ❖ Comments

Public DEA Meeting – July 20, 2011





# AGENDA

- Introductions
- Presentation
- Group Questions
- Information Stations
- Closing (**10 minutes**)

Public DEA Meeting – July 20, 2011





# Comment Submission

***Submit comments in the following ways:***

1. Email comments to [mkdean@fs.fed.us](mailto:mkdean@fs.fed.us)
2. Mail comments to:  
USDA-FS, Attn: Mel Dean, 60 Nowelo St., Hilo, HI 96720
3. Verbal comments or questions: 808-854-2651

# Thank You



Research & Development