



LAND USE COMMISSION

Komikina Ho'ohana 'Āina

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

Ka 'Oihana Ho'omōhala Pā'oihana, 'Imi Wai wai a Ho'omāka'ika'i

235 S. Beretania Street, RM 406, Honolulu, Hawai'i 96813

Mailing Address: P.O. Box 2359, Honolulu, Hawai'i 96804

Email Address: dbedt.luc.web@hawaii.gov

JOSH GREEN, M.D.
GOVERNOR

SYLVIA LUKE
LT. GOVERNOR

DANIEL ORODENKER
LUC EXECUTIVE OFFICER

Telephone: (808) 587-3822

Fax: (808) 587-3827

Website: luc.hawaii.gov

January 2, 2025

Mary Alice Evans
Director, Office of Planning and Sustainable Development
Environmental Review Program
235 S. Beretania Street, Room 702
Honolulu, HI 96813

Subject: Docket No. A19-807
Trustees of the Estate of Bernice Pauahi Bishop dba Kamehameha Schools
Sanford's Service Center Leilani Quarry
Request to Publish Second EIS Preparation Notice
Kauaea, Puna, Hawai'i
TMK No. (3) 1-3-009: por. 005

Dear Director Evans:

We respectfully request the publication of the Second Environmental Impact Statement Preparation Notice ("Second EISPN") for the above-referenced action in the next available issue of The Environmental Notice.

On July 23, 2019, Sanford's Service Center, Inc.'s ("Applicant") Environmental Impact Statement Preparation Notice ("EISPN") was published under the 1996 version of the Environmental Impact Statement rules, Hawai'i Administrative Rules ("HAR") Title 11, Chapter 200. On August 9, 2019, the 1996 version of the EIS rules were replaced by the HAR Title 11, Chapter 200.1 (the "EIS Rules"). HAR § 11-200.1-32(b)(2) provides that if an EISPN was published prior to the adoption of HAR Title 11, Chapter 200.1, but a final EIS has not been accepted within five (5) years of the EIS Rules, then the applicant must comply with the EIS Rules. A final EIS was not published for the subject District Boundary Amendment within the five-year deadline, so the Applicant has prepared the Second EISPN.

Should you have any questions, please contact us at (808) 587-3822 or via email at dbedt.luc.web@hawaii.gov.

Sincerely,

Daniel Orodener
Executive Officer
Land Use Commission
State of Hawai'i

CC: Calvert G. Chipchase, Esq.

From: webmaster@hawaii.gov
To: [DBEDT OPSD Environmental Review Program](#)
Subject: New online submission for The Environmental Notice
Date: Tuesday, December 31, 2024 10:54:24 AM

Action Name

Sanford's Service Center Leilani Quarry State Land Use District Boundary Amendment

Type of Document/Determination

Environmental impact statement preparation notice (EISPN)

HRS §343-5(a) Trigger(s)

- (7) Propose any reclassification of any land classified as a conservation district

Judicial district

Puna, Hawai'i

Tax Map Key(s) (TMK(s))

(1)-3-009:005, portion

Action type

Applicant

Other required permits and approvals

State Land Use District Boundary Amendment (Conservation to Agricultural); Special Permit

Discretionary consent required

State Land Use District Boundary Amendment (Conservation to Agricultural); Special Permit

Agency jurisdiction

State of Hawai'i

Approving agency

State of Hawai'i Land Use Commission

Agency contact name

Daniel Orodenker

Agency contact email (for info about the action)

Daniel.E.Orodenker@hawaii.gov

Email address for receiving comments

LeilaniQuarryProject@g70.design

Agency contact phone

(808) 587-3822

Agency address

P.O. Box 2539

Honolulu, HI 96804-2359
United States
[Map It](#)

Public Scoping Meeting information

January 20, 2025; 6:00 - 7:30 PM Virtual, Microsoft Teams

Accepting authority

State of Hawai'i Land Use Commission

Applicant

Sanford's Service Center

Applicant contact name

Sanford Iwata

Applicant contact email

Sanscinc.Kim@hawaiiantel.net

Applicant contact phone

(808) 965-8144

Applicant address

P.O. Box 1321
Pahoa, HI 96778
United States
[Map It](#)

Is there a consultant for this action?

Yes

Consultant

Group 70 International Inc.

Consultant contact name

Mark Kawika McKeague

Consultant contact email

LeilaniQuarryProject@g70.design

Consultant contact phone

(808) 523-5866

Consultant address

111 S. King Street
Suite 170
Honolulu, HI 96813
United States
[Map It](#)

Action summary

Sanford's Service Center, Inc. (Applicant), in coordination with the property owner, Kamehameha

Schools, is seeking to amend the Land Use District boundaries of certain lands consisting of approximately 94.107 acres of Tax Map Key No. (3) 1-3-009:005 situated at Kaua'ea, Puna, Island and County of Hawai'i, State of Hawai'i (Petition Area) from the State Land Use Conservation District (Limited Subzone) to the State Land Use Agricultural District. The Applicant is presently conducting cinder mining and quarrying activities on a 30-acre portion of the Petition Area pursuant to non-conforming Conservation District Use Permits issued by the Board of Land and Natural Resources on April 7, 2008. If the Land Use District Boundary Amendment is granted, the Applicant's intent is to apply for a Special Permit with the Land Use Commission to expand their activities over a 73.075-acre portion of the Petition Area. The remaining 21.033-acre portion of the Petition Area will be buffer area.

Attached documents (signed agency letter & EA/EIS)

- [2019-LUC-Accepting-Authority-Letter.pdf](#)
- [SSC_Final-EISPN_Publish_311224.pdf](#)

Action location map

- [petition_area_sanford_service_center1.zip](#)

Authorized individual

Ethan McKown

Authorization

- The above named authorized individual hereby certifies that he/she has the authority to make this submission.

SANFORD'S SERVICE CENTER LEILANI QUARRY

Kauaea Ahupua'a, Puna District, Island of Hawai'i
TMK (3) 1-3-009:005

Second Environmental Impact Statement Preparation Notice



APPLICANT:



15-2628 Keaau-Pahoa Road
Pahoa, HI 96778

PREPARED BY:



111 S. King Street, Suite 170
Honolulu, Hawai'i 96813

This environmental document was prepared pursuant to Hawai'i Revised Statutes, Chapter 343, Environmental Impact Statement Law and Hawai'i Administration Rules, Chapter 11-200.1, Environmental Impact Statement Rules.

DECEMBER 2024

Table of Contents

Table of Contents	i
List of Figures	iii
List Of Tables	iii
Abbreviations	iv
1.0 Introduction	1
1.1 Project Summary	1
1.2 Project Description and Location.....	2
1.3 Purpose and Need	3
1.4 Environmental Review Process.....	10
1.4.1 Scoping.....	10
1.4.2 Draft EIS	11
1.4.3 Final EIS.....	11
1.4.4 Scoping Consultation.....	11
1.5 State Decision to be Made.....	13
1.6 List of Required Permits and Approvals	13
2.0 Description of the Proposed Action and Alternatives	14
2.1 Alternatives Considered	14
2.1.1 Alternative 1: Land Use District Boundary Amendment (Proposed Action)	14
2.1.2 Alternative 2: Conservation District Subzone Reclassification	14
2.1.3 Alternative 3: No Action.....	15
2.1.4 Alternatives Not Considered	15
3.0 Existing Conditions and Potential Impacts	15
3.1 Geology and Geohazards	15
3.2 Hydrology and Water Resources.....	16
3.3 Biological Resources	17
3.4 Air Quality	19
3.5 Hazardous Substances, Wastes, and Conditions.....	20
3.6 Noise.....	20
3.7 Socioeconomics.....	21
3.7.1 Educational Resources.....	21
3.8 Historic and Cultural Resources	22
3.9 Archaeological Resources.....	23
3.10 Public Facilities, Infrastructure, and Utilities	23
3.11 Land Use	24
3.11.1 Agricultural Value of Land	24

3.11.2	Recreational Resources	24
3.11.3	Scenic Resources	24
4.0	Cumulative Impacts and Other Considerations	28
4.1	Secondary and Cumulative Impacts.....	28
4.2	Consistency with State and County Land Use Plans, Policies, and Controls	28
4.2.1	State of Hawai'i Land Use Law	28
4.2.2	The Hawai'i State Plan	29
4.2.3	Hawai'i State Functional Plans	29
4.2.4	Coastal Zone Management.....	29
4.2.5	Hawai'i County General Plan.....	29
5.0	Significance Determination	31
6.0	References	33
	Appendix A: Public Comment and Scoping Meeting Letter.....	35

List of Figures

Figure 1: TMK and Petition Area	5
Figure 2: TMK and Project Areas	6
Figure 3: Petition, License, and Buffer Areas.....	7
Figure 4: State Land Use District Map.....	8
Figure 5: County Zoning Districts	9
Figure 6: Agricultural Lands Important to the State of Hawai'i.....	255
Figure 7: Soil Types	26
Figure 8: Land Study Bureau Classification	27
Figure 9: Land Use Pattern Allocation Guide	30

List Of Tables

Table 1: Anticipated Permits and Approvals	14
Table 2: Significance Criteria, HAR 11-200.1-13.....	31

Abbreviations

ALISH	Agricultural Lands of Importance to the State of Hawai'i
CAA	Clean Air Act
CDP	Community Development Plan
CDUP	Conservation District Use Permit
DLNR	Department of Land and Natural Resources
EA	Environmental Assessment
EIS	Environmental Impact Statement
EISPN	Environmental Impact Statement Notice
FONSI	Finding of No Significant Impact
GPS	Global Positioning System
HAR	Hawai'i Administrative Rules
HDOH	Hawai'i Department of Health
HRS	Hawai'i Revised Statutes
LLC	Limited Liability Company
LUC	Land Use Commission
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
OEQC	Office of Environmental Quality Control
PPM	Parts Per Million
SHPD	State Historic Preservation Division
SPP	Site Preservation Plan
TMK	Tax Map Key
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 Introduction

This Second Environmental Impact Statement Preparation Notice (EISPN) was prepared in accordance with the requirements of Hawai'i Revised Statutes (HRS) § 343 and Chapter 200.1 of Title 11, Hawai'i Administrative Rules (HAR) in support of a State Land Use District Boundary Amendment to reclassify lands at Kauea, Puna District, Island of Hawai'i, from the State Conservation District to the State Agricultural District for the reasons discussed in this EISPN (Proposed Action). This HRS 343 environmental review is required because the Proposed Action involves reclassifying Conservation District Lands.

A State Land Use District Boundary Amendment will provide improved land use conformance for the Applicant, Sanford's Service Center, to continue and expand mining and quarrying activities for a low-density type of black-colored cinder at Leilani Quarry. The cinder from Leilani Quarry is highly valued by the local horticultural and nursery industry.

A prior EISPN for the Proposed Action was published in *The Environmental Notice* on July 23, 2019 under HAR Chapter 11-200. This EISPN was also in support of a State Land Use District Boundary Amendment for the same lands. A Draft Environmental Impact Statement (EIS) was never published. On August 9, 2019, amendments to HAR Chapter 11-200 became effective (HAR Chapter 11-200.1). HAR §11-200.1-4, states that actions or projects that began under the previous rules may continue to follow those older rules if they are completed within five years of the new rules' effective date. Since an EIS was not completed for this project, this Second EISPN is being published under the new rules HAR Chapter 11-200.1. A notice of withdrawal of the 2019 EISPN was published in *The Environmental Notice* on January 8, 2025.

1.1 Project Summary

Type of Document:	Environmental Impact Statement Preparation Notice (EISPN)
Project Name:	Sanford's Service Center Leilani Quarry State Land Use District Boundary Amendment
Applicant:	Sanford's Service Center P.O. Box 1321 Pāhoa, Hawai'i 96788
Agent:	G70 111 S. King St., Suite 170 Honolulu, HI 96813 Contact: Mark Kawika McKeague, AICP Phone: (808) 523-5866 Email: LeilaniQuarryProject@g70.design
Accepting Authority:	State of Hawai'i Land Use Commission

HRS Chapter 343 Triggers:	Reclassification of Conservation District Lands under HRS 343-5(a)(7)
Project Location:	Kauaëa Ahupua'a, Puna District, island of Hawai'i
Judicial District:	Puna
Petition Area:	94.107 acres
Tax Map Keys (TMK): Landowners and Administrators	(3) 1-3-009:005: Trustees of the Estate of Bernice Pauahi Bishop (Kamehameha Schools)
State Land Use District	Conservation District, Limited (L) subzone
County of Hawai'i Zoning:	Agricultural District (Ag-20a)
State of Hawai'i Permits and Approvals	<ul style="list-style-type: none"> • State District Boundary Amendment, Land Use Commission • Special Use Permit, Land Use Commission • Site Preservation Plan (completed), State Historic Preservation Division
County of Hawai'i Permits and Approvals	<ul style="list-style-type: none"> • Special Permit, Windward Planning Commission • General Plan Amendment (if required), Hawai'i County Council

1.2 Project Description and Location

Sanford's Service Center, Inc. (Sanford's Service Center) in coordination with the property owner, Kamehameha Schools, intends to petition the State of Hawai'i Land Use Commission to amend the State Land Use District designation for the 94.107-acre Petition Area from Conservation to Agricultural.

The 94.107-acre Petition Area is part of a larger 694.5-acre encompassing parcel, Tax Map Key (TMK) (3) 1-3-009:005 (**Figure 1 and Figure 2**). Currently, Sanford's Service Center has a license from Kamehameha Schools to perform mining and quarrying activities in a 73.075-acre portion of the property (License Area). Buffer Areas totaling 21.032 acres are designated to minimize impacts to forested areas. The License Area (73.075 acres) and Buffer Areas (21.032 acres) comprise the 94.107-acre Petition Area (**Figure 3**).

The Petition Area boundary has been established through consultation between Kamehameha Schools (Petitioner) and Sanford's Service Center (Applicant), with consideration of conditions such as property boundaries, historical and natural resources, and license provisions, including a prohibition on modifying the Pu'u Kali'u summit. Pu'u often hold cultural significance as they can be associated with mo'olelo of specific regions or tied to traditional and customary practices. Since the area near Pu'u Kali'u contains the desired cinder material, the boundary for quarry expansion was established within the constraints of property boundaries. Additionally, as the location of desired cinders is unknown in advance, petitioning for a smaller area would be neither feasible nor economical.

Leilani Quarry and the Petition Area occupy relatively small portions of the encompassing parcel. The Petition Area is located within the State Land Use Conservation District, Limited (L) subzone (**Figure 4**). However, mining or quarrying is only allowed in the Resource (R) subzone of the Conservation District per Title 13-15-1, HAR. The Petition Area is also located in the Hawai'i County Zoning Designation of Agricultural (Ag-20a) (**Figure 5**). Mining or quarrying is a permitted activity in the Agricultural District by Hawai'i County Code 25-5-72 with a Special Permit.

At the quarry, Sanford's Service Center produces a low-density type of black-colored cinder that is highly valued by the horticultural and nursery industry. Sanford's Service Center has conducted mining and quarrying activities on a 30-acre portion of the Petition Area pursuant to legal non-conforming Conservation District Use Permits issued by the Board of Land and Natural Resources on April 7, 2008. However, due to the 2011 rule amendment that provides that mining and quarrying are no longer identified land uses in the CDL subzone, the Proposed Action is necessary to ensure that existing and proposed uses in the Petition Area are consistent with the applicable land use designations.

The Proposed Action includes both the administrative action of a State Land Use District Boundary Amendment (DBA) to the State Land Use Agricultural District and the connected action of expanding mining and quarrying activities within the Petition Area following a Special Permit granted by the Land Use Commission.

1.3 Purpose and Need

The purpose of the Proposed Action is to allow the Applicants' existing cinder mining and quarry activities to be expanded within the Petition Area by reclassifying the Petition Area from the State Land Use Conservation District to the Agricultural District consistent with the County of Hawaii's Agricultural Zoning designation (A-20a) and the County of Hawaii's anticipated update to the General Plan to redesignate the Petition Area from Conservation to Productive Agricultural. The Proposed Action would allow the expansion of mining and quarrying activities by Sanford's Service Center with the approval of a Special Permit from the LUC over a 73.075-acre portion of the Petition Area (the remaining 21.033-acre portion of the Petition Area will be buffer areas).

Mining and quarrying uses are only a permitted activity in the Resource Subzone (R) of the Conservation District per the 2011 amendment to Title 13-15, HAR Conservation District. Thus, since 2011, mining and quarrying activities at Sanford's Service Center, (currently Limited subzone) have been a legal nonconforming use. Without the State Land Use DBA and subsequent Special Permit from the LUC, Sanford's Service Center's mining and quarrying activities would be restricted to the existing 30-acre area.

The black cinder produced at Sanford Service Center is essential to the horticultural and nursery industry, a major industry in the State of Hawai'i. In 2018, the Lower East Rift Zone eruption immediately disrupted black cinder production, thereby jeopardizing the horticultural and nursery industry. In response, the Office of the Governor issued an emergency proclamation to support disaster response victims and protect the economy of East Hawai'i. Local government, in conjunction with the Hawai'i Floriculture and Nursery Association (HFNA), began an emergency effort to identify alternative sources of black cinder (DLNR 2018). Following this emergency response, Act 191 was signed into law in July 2021, which called for the use of State funds and efforts for the purpose of identifying alternative black cinder sources. The status of the black cinder site survey is presented in a 2021 DLNR report, detailing the allocation of additional funds and further surveys to identify new black cinder quarry sites (DLNR, 2021).

Given the State's recognition of the importance of black cinder, the continued operation of Sanford's Service Center may be viewed as critical for the stability of the local horticulture and nursery industries. The black cinder produced at the Leilani quarry is a vital input and resource for many local businesses including anthuriums and orchids. Without the ability to expand mining and quarrying activities within the Petition Area, Sanford's Service Center faces a serious threat to its long-term viability and its ability to support other major local industries.



Figure 1: TMK and Petition Area



Figure 2: TMK and Project Areas

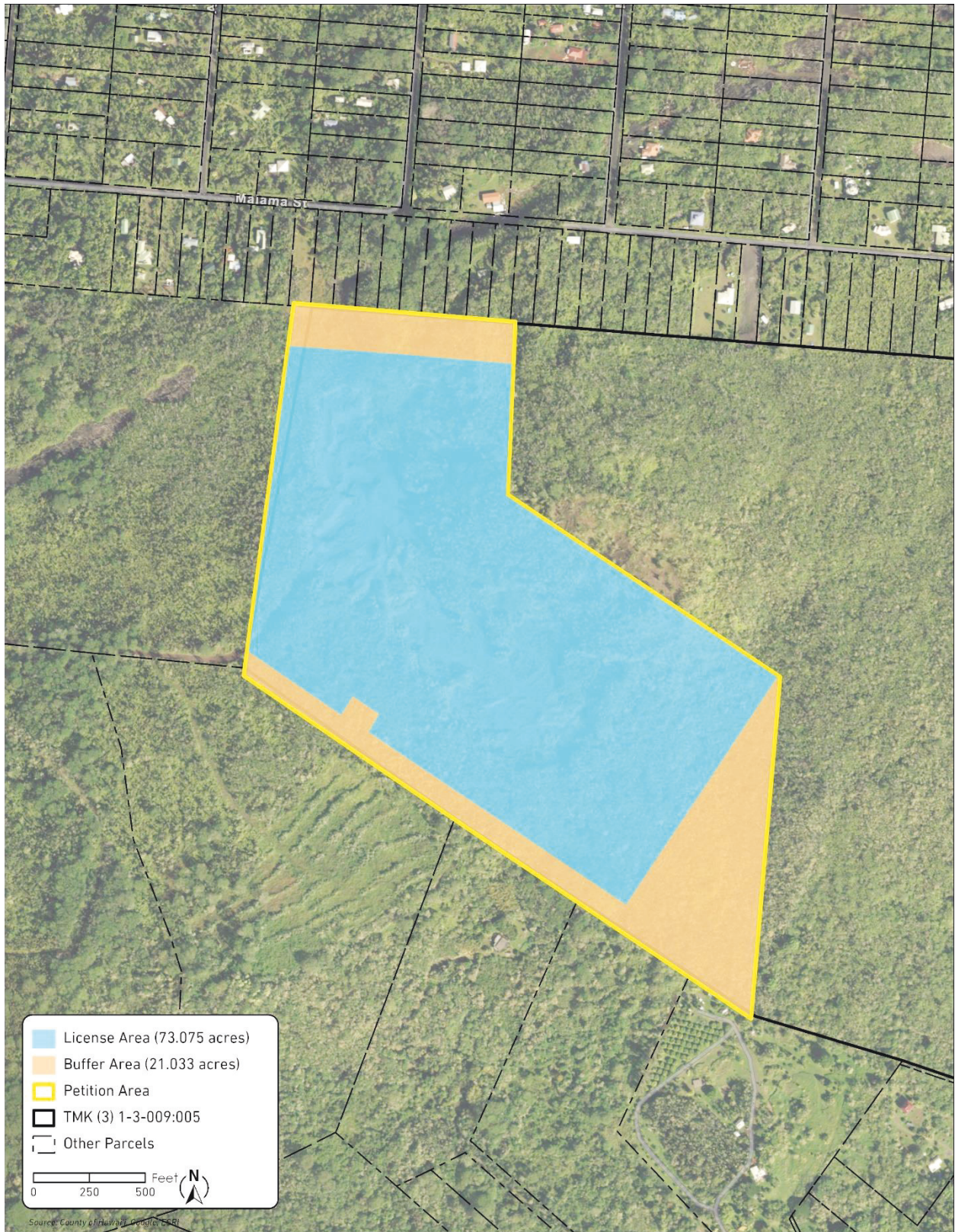


Figure 3: Petition, License, and Buffer Areas

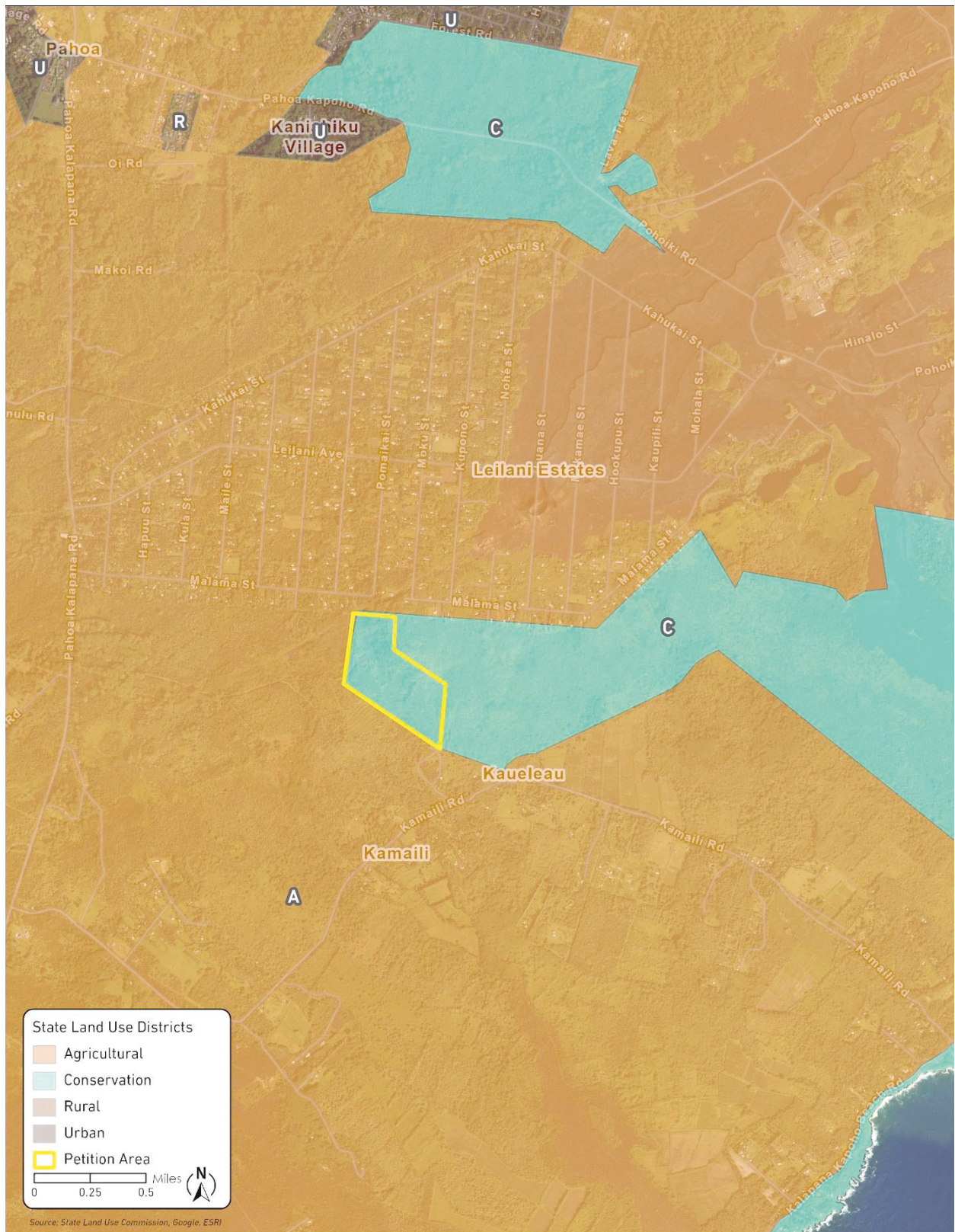


Figure 4: State Land Use District Map

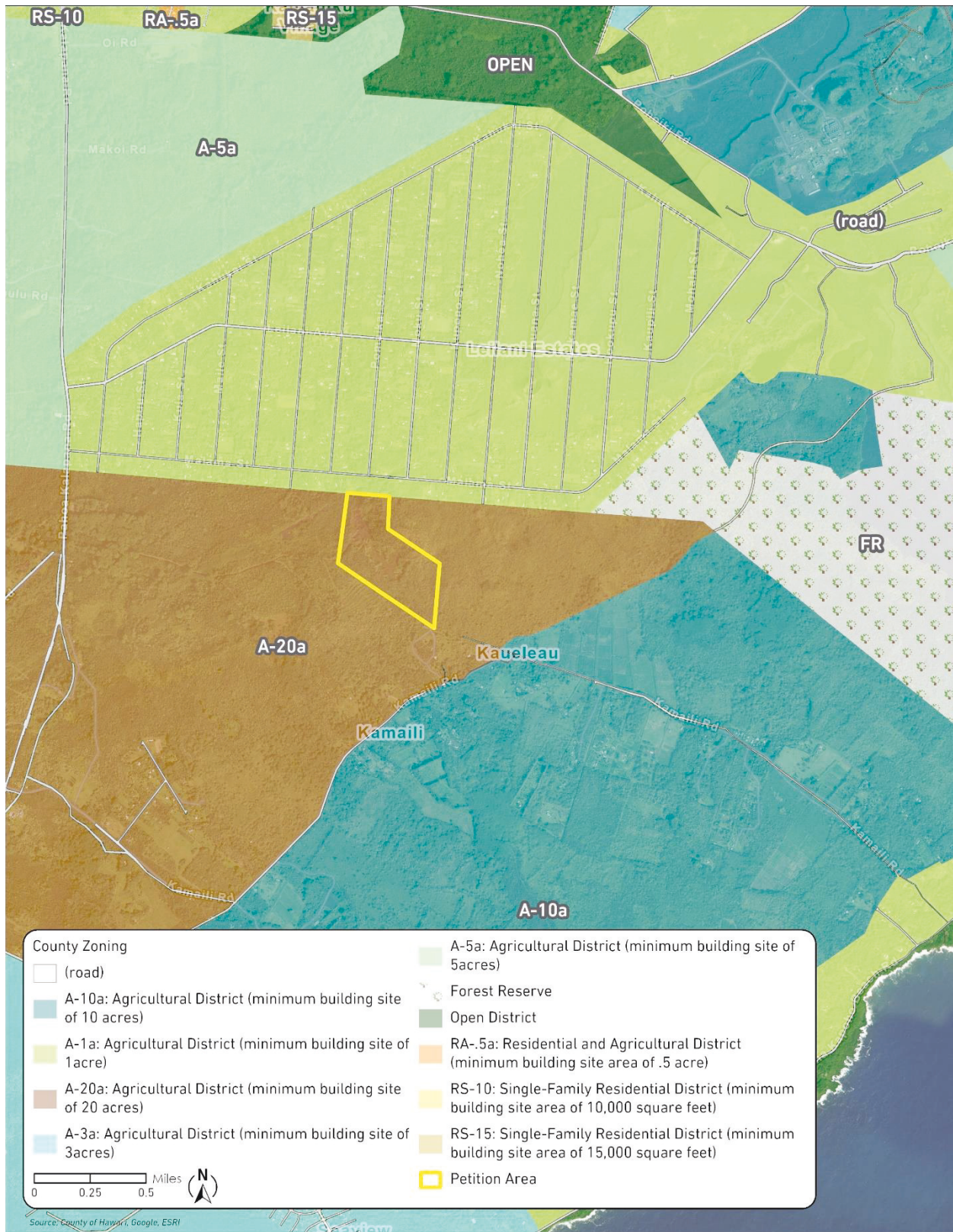


Figure 5: County Zoning Districts

1.4 Environmental Review Process

Reclassification of Conservation District Lands requires compliance with the Hawai'i Environmental Impact Statement statute and implementing rules, codified in Hawai'i Revised Statutes Chapter 343 (HRS Chapter 343) and Hawai'i Administrative Rules (HAR) Chapter 11-200.1. Collectively, the Hawai'i statute and rules are referred to as the Hawai'i Environmental Policy Act (HEPA). The purpose of HEPA is to ensure environmental concerns are given appropriate consideration in decision making, along with economic and technical considerations.

According to Chapter 343, an Environmental Assessment (EA) is prepared to evaluate the potential impacts of a proposed action, develop mitigation measures for adverse impacts, and determine whether any of the impacts are significant according to thirteen specific criteria. If the study concludes that no significant impacts would occur from the implementation of the proposed action, a Finding of No Significant Impact (FONSI) is prepared, allowing the action to proceed. If the study finds that significant impacts are expected because of the proposed action, then an Environmental Impact Statement (EIS) is prepared to allow deeper investigation of impacts and more extensive public involvement. Pursuant to HRS 343-5(e), if an agency determines, based on its judgment and experience, that an EIS is likely to be required, the agency may authorize the preparation of an EIS without first completing an EA.

In this case, the Applicant, through coordination with the Petitioner, sought the LUC's approval to advance to the EIS process without EA preparation. In order to not overlook any potentially significant impacts to the natural and/or human environment, the Applicant has chosen to undertake an EIS-level analysis for this project. The LUC agreed to be the accepting authority for the Proposed Action on July 15, 2019, further determining that an EIS is likely to be required for the project and authorizing the Petitioner to proceed with the preparation of an EISPN.

HEPA requires an EIS Preparation Notice (EISPN) to alert the public of the applicant's intention to prepare an EIS. Public involvement is a key component of the HEPA process. Solicitation of public input includes notification, publication of project information, and invitations to participate in scoping and provide comments regarding the Proposed Action. The virtual scoping meeting is planned for January 20, 2025.

In addition to compliance with HEPA, the EIS process includes documentation of compliance with other relevant environmental laws and regulations. The EIS will address relevant laws and regulations to provide decision makers with a comprehensive overview of the regulatory issues associated with the Proposed Action. **Section 4.2** lists the anticipated plans, policies and controls that influence the Proposed Action.

The subsequent steps following the publication of the availability of this EISPN in the *Environmental Notice* of the Hawai'i State Office of Environmental Quality Control (OEQC) are summarized as follows:

1.4.1 Scoping

Per §11-200.1-23 (c), upon publication of the EISPN in the *Environmental Notice*, agencies, citizen groups, or individuals have a period of 30 days from the initial publication date to make written comments regarding the environmental effects of the Proposed Action. Scoping efforts for the EIS include the distribution of the EISPN to key stakeholders including agencies, organizations, civic society, and Native Hawaiian Organizations, as well as an invitation to participating in the scoping process. This EISPN will be published on January 8, 2025. Comments from agencies and the public

will therefore be accepted through February 7, 2025. A virtual scoping meeting is scheduled on January 20, 2025. More information on how to submit comments and attend the virtual scoping meeting can be found in **Appendix A**.

1.4.2 Draft EIS

The Draft EIS will document the scoping outreach efforts and summarize comments received during meetings. It will include copies of all written comments on the EISPN and Applicant responses. The Draft EIS will analyze the environmental impacts of the Proposed Action and alternatives, including the No Action Alternative. The public will have 45 days to review the Draft EIS and provide comments. A public hearing will be conducted during the comment period to encourage public participation and feedback.

1.4.3 Final EIS

The Draft EIS will be revised to address the comments received. The Final EIS will incorporate these comments and include copies of both the comments and the responses.

1.4.4 Scoping Consultation

The following entities have received copies of the EISPN or notifications of its availability and are formally invited to participate in the EIS process:

Federal Agencies

- Department of Agriculture, Natural Resources Conservation Service
- Department of the Interior, Fish and Wildlife Service
- Department of the Interior, Geological Survey, Hawaii Volcano Observatory
- Department of the Interior, Geological Survey, Biological Resources Division
- Environmental Protection Agency, Region IX

State Agencies

- Big Island Association of Nurserymen
- Department of Agriculture
- Department of Accounting and General Services
- Department of Business, Economic Development & Tourism, Office of Planning
- Department of Hawaiian Home Lands
- Department of Health
- Department of Land and Natural Resources
- Department of Public Safety
- Department of Transportation
- Environmental Planning Office
- Office of Environmental Quality Control

Office of the Governor, Hawai'i Island Liaison
Office of Hawaiian Affairs
State Historic Preservation Division
State Land Use Commission
University of Hawai'i, Environmental Center

County of Hawai'i Agencies

Civil Defense Agency
Department of Environmental Management
Department of Finance
Department of Public Works
Department of Water Supply
Fire Department
Planning Department
Police Department

Elected Officials, Community Organizations, and Other Organizations

County Councilmember Matt Kanealii-Kleinfelder, County Council District 5
Mayor Kimo Alameda
Representative Greggor Ilagan, State House District 4
Senator Joy San Buenaventura, State Senate District 2

Utility Companies

Hawai'i Electric Light Company, Inc.
Hawaiian Telcom, Inc.

Libraries

Hawai'i State Library
Hilo Public Library
Kea'au Library
Pāhoa Public Library

Newspapers

Hawai'i Tribune Herald
West Hawai'i Today

Civic Society

Association of Hawaiian Civic Clubs
Cave Conservancy of Hawai'i

Sierra Club
Puna Community Development Plan Committee
Hawai'i Export Nursery Association
Hawai'i Floriculture and Nursery Association
Historic Hawai'i Foundation
Hawai'i Island Chamber of Commerce
Hui Iwi Kuamo'o
Ka'awaloa 'Ohana
Puna Aha Council
Sierra Club, Moku Loa Group

This list is a preliminary identification of parties with interests in the area or those who may have relevant information about the Proposed Action. The Applicant welcomes assistance in identifying others who may have special knowledge or could be adversely affected by the Proposed Action and should be consulted during the EIS preparation process.

The EISPN has been made available at the Pāhoā, Kea'au, and Hilo Public Libraries, and sent to the *Hawai'i Tribune Herald* and *West Hawai'i Today*. A copy has also been deposited with the Hawai'i Documents Center.

1.5 State Decision to be Made

Under HAR Section 11-200.1-7 (c), whenever an applicant proposes an action, the agency that initially received and agreed to process the request for an approval shall also be the approving agency. With respect to EISs, this approving agency is also called the accepting authority. Since the Proposed Action is a State Land Use District Boundary Amendment to reclassify the Petition Area to Agricultural District from Conservation District, the accepting authority for this EIS is the State Land Use Commission. The LUC agreed to be the accepting authority for the Proposed Action on July 15, 2019, authorizing the Petitioner to proceed with the preparation of an EISPN.

Under HAR Section 11-200.1-28, the accepting authority evaluates whether the EIS fulfills the intent and provisions of HRS Chapter 343, adequately discloses and describes identifiable impacts, and satisfactorily responds to comments provided during public review.

1.6 List of Required Permits and Approvals

A list of all permits and approvals from federal, state, and county agencies necessary for implementation of the Proposed Action is required to be included in the EIS under HAR §11-200.1-23. **Table 1** lists the anticipated permits and approvals.

Table 1 - Anticipated Permits and Approvals	
Permits and Approvals	Agency
State of Hawai'i	
State Land Use District Boundary Amendment	State Land Use Commission
Special Permit	State Land Use Commission
Site Preservation Plan (completed)	Department of Land and Natural Resources, State Historic Preservation Division
County of Hawai'i	
Special Permit	Windward Planning Commission
General Plan Amendment (if necessary)	Hawai'i County Council

2.0 Description of the Proposed Action and Alternatives

2.1 Alternatives Considered

2.1.1 Alternative 1: Land Use District Boundary Amendment (Proposed Action)

Alternative 1 is the Applicant's Proposed Action and Preferred Alternative. Under Alternative 1, Sanford's Service Center, in coordination with the property owner, Kamehameha Schools, intends to petition the State of Hawai'i Land Use Commission to amend the State Land Use District designation for the 94.107-acre Petition Area from Conservation to Agricultural.

The District Boundary Amendment to State Land Use Agricultural District would bring the Petition Area into better consistency with the County Zoning designation of A (agricultural) district, which permits excavation of natural building material or minerals for commercial use (Section 25-5-72(c)(5), Hawai'i County Code). Mining and quarrying activities within the Petition Area would require a Special Permit issued by the Land Use Commission (Section 205-6 HRS).

Under Alternative 1, Sanford's Service Center would be able to continue ongoing mining and quarrying activities and expand mining and quarrying activities within the Petition Area while maintaining conformance with Chapter 205, HRS. The Petition Area's State Land Use Designation and County Zoning would have greater consistency for these ongoing activities.

2.1.2 Alternative 2: Conservation District Subzone Reclassification

Under Alternative 2, the Applicant would submit a Conservation District Use Application to the Board of Land and Natural Resources (BLNR) to reclassify the Petition Area from Conservation District subzone from Limited (L) to Resource (R). In the Resource (R) subzone, mining and extraction of materials or natural resources are permitted under a management plan approved alongside a Conservation District Use Permit by the BLNR (Section 13-5-24, HAR). The procedures to rezone a subzone are set forth in Section 13-5-5, HAR and Chapter 183C, HRS.

A Conservation District subzone reclassification to Resource (R) and associated Conservation District Use Permit would bring ongoing mining and quarrying activities into conformance with Conservation District rules and allow for the expansion of mining and quarrying activities within the Petition Area.



There would be less consistency, however, with the County Zoning designation of A (agriculture) district, and the surrounding parcels which are designated as the Agricultural Land Use District.

2.1.3 Alternative 3: No Action

The No Action Alternative provides a reference point to measure impacts on the social and physical environment, capturing both beneficial and adverse effects. Under this alternative, the Land Use District would remain the same (Conservation District, Limited subzone). Mining and quarrying activities would remain a legal non-conforming use. Mining and quarrying activities would be limited to the area covered by the existing Conservation District Use Permits and could not expand. Under the No Action Alternative, Sanford's Service Center operations would not be able to continue in the long-term after all cinder resources are mined under the existing Conservation District Use Permits. At that time, Sanford's Service Center would follow the Grading and Landscaping Plan per the terms of the Conservation District Use Permit.

2.1.4 Alternatives Not Considered

Sanford's Service Center conducts mining and quarry activities at other sites on Hawai'i Island. These other locations do not provide the specific type of cinder found at Leilani Quarry, which is used and highly valued by the local floriculture industry. Therefore, Sanford's Service Center does not have access to alternative locations to produce the specific cinder found at Leilani Quarry, and so no alternative locations were considered.

3.0 Existing Conditions and Potential Impacts

The Petition Area is located within the ahupua'a of Kauaea on the flank of Kīlauea volcano at an elevation of 574 to 1,079 feet above mean sea level (MSL). The climate in this part of Puna is warm and wet, averaging about 115 to 120 inches of rain annually, with a mean annual temperature of approximately 76 degrees Fahrenheit (Giambelluca et al. 2013). The community of Pāhoa is located about three miles to the northeast. The Petition Area occupies the far western portion of the 694.5-acre encompassing parcel TMK (3rd) 1-3-009:005. The Petition Area is accessed by a private road that extends from Pāhoa-Kalapana Road (State Route 130), crossing two privately-owned parcels.

Areas surrounding the Petition Area are forested and include uses such as papaya farming. The remainder of the encompassing parcel is also undeveloped and unused. The northern boundary of the Petition Area adjoins the southern boundary of the Leilani Estates subdivision lots along Malama Street. Some structures and agricultural uses are present to the south of the Petition Area, with several homesteads and farms along Malama Road and Kamaili Road, within approximately 0.25-mile of the southern boundary of the Petition Area. The 206.17-acre property located to the west of the Petition Area owned and unused by Kamehameha Schools. The 94.107-acre Petition Area includes buffers of 21.033 acres intended to protect forested areas.

3.1 Geology and Geohazards

A portion of the Petition Area straddles the East Rift Zone of Kilauea Volcano, subjecting the Petition Area to geohazards. The majority of the site is underlain by 400- to 750-year-old pahoehoe and 'a'a lava flows, with cinder cones such as Pu'u Kali'u of similar age. Most areas away from Pu'u Kali'u are older than 10,000 years (Wolfe and Morris 1996). A small area of 1955 lava flow is located on the southwestern flank of Pu'u Kali'u, and two areas mapped with spatter or tuff cones of 750 to 1,500 years of age are within the Petition Area. The Petition Area is almost entirely within Lava Flow Hazard

Zone 1 (Wright et al. 1992), covering summits and rift zones of Kilauea and Mauna Loa, where vents have been historically active.

Hawai'i Island faces geologic hazards, particularly lava flows and earthquakes. The U.S. Geological Survey classifies the Petition Area, located mostly within the East Rift Zone of Kilauea Volcano, as within Lava Flow Hazard Zone 1 on a scale of 9 to 1, with 1 being the highest risk (Wright et al. 1992). In terms of seismic risk, Hawai'i Island is rated Zone 4 Seismic Hazard (Uniform Building Code, Appendix Chapter 25, Section 2518), indicating a high risk of earthquake damage, particularly to poorly designed or constructed structures. The vicinity of the Petition Area has recently experienced large earthquakes, including the magnitude 7.7 Kalapana earthquake in 1975 (USGS 2017) and the May 4, 2018, 6.9 magnitude earthquake, with an epicenter about 10.5 miles southwest of the Petition Area (USGS 2018). Proximity to the lower East Rift Zone implies a relatively higher intensity and probability of shaking, with a peak ground acceleration of 1.25g (1.25 times normal gravitational acceleration) at a 2% probability in 50 years.

On April 30, 2018, following a period of enhanced summit inflation indicated by tiltmeter and GPS data, magma beneath Pu'u O'o drained, causing the crater floor to collapse (USGS 2018). Earthquakes began migrating eastward within hours. On May 2, ground cracks appeared in and near Leilani Estates, with the first lava emerging on May 4. Kilauea then entered a dramatic eruption phase, with lava and gases effusing from multiple fissures in the lower East Rift Zone, particularly Fissure 8 in Leilani Estates, approximately 0.7 miles northeast of Pu'u Kali'u. Activity from Fissure 8 ceased on August 5, 2018. To date, the Petition Area has not been further inundated by lava, except for a small area in the far northwest corner, though it was impacted by volcanic gases (Figure 2).

Potential Impacts: Geologic conditions impose no substantial constraints on the Proposed Action. Generally, all on-site equipment can be mobilized in a short time. Although the Petition Area could be affected by earthquakes and lava flows due to its location within Kilauea's East Rift Zone, the mining and quarrying activities utilize equipment that is not vulnerable to major earthquakes and could be easily relocated if threatened by lava flow inundation. Lava flow inundation would only temporarily obstruct mining, as equipment could be returned once hazards diminish.

The feasibility and safety of the Proposed Action given its proximity to the 2018 eruption should be carefully considered. Fissure 8 is only about 0.7 miles from the Petition Area; however, the Petition Area was never impacted by lava inundation, apart from a small area in the northwest corner. During the eruption, activities at Sanford's Leilani Quarry were temporarily halted due to poor air quality. Since the Proposed Action is industrial, involves minimal permanent structures and infrastructure, and allows for rapid evacuation of personnel and equipment, mining and quarrying in this area may be more appropriate than other uses requiring fixed structures, utilities, and infrastructure. Due to the site's proximity to the lower East Rift Zone, Sanford's Service Center is developing an evacuation plan that will be detailed in the Draft EIS.

3.2 Hydrology and Water Resources

Because of the geologically young and porous nature of the geology in the Petition Area, surface water features are not found in the area and are likely to result only from transient ponding after heavy rainfall. Additionally, areas not actively mined become vegetated quickly, enhancing rainfall infiltration. The ocean is approximately 3 miles southeast of the Petition Area. Although mining and quarrying activities are inherently soil-disturbing, it is unlikely that polluted stormwater runoff from the Petition Area could adversely impact water quality. No impacts to stream banks, stream waters, wetlands, or any other waters of the U.S. would occur, as none are located near the Petition Area. The floodplain

status for the Petition Area is Zone X. As defined by the Federal Emergency Management Agency (FEMA), a Zone X floodplain status represents areas of minimal flood hazard. These areas are outside the 100-year floodplain (where there is a 1% annual chance of flooding) and are generally considered to have a low to moderate risk of flooding. Zone X includes both areas of 0.2% annual chance of flooding (500-year floodplain) and areas of minimal flood risk.

Potential Impacts: Mining and quarrying activities within the Petition Area do not require water for operations. Mining and quarrying activities also do not extend deep enough to directly impact the groundwater table. Therefore, it is expected that any impacts to water resources from the Proposed Action would be primarily associated with stormwater runoff. Because mining and quarrying activities are soil-disturbing activities, there is a potential for water quality impacts due to sediment-laden stormwater runoff, as well as contaminants associated with heavy equipment and other sources, including solids from tire and pavement wear, brake shoe and drum wear, rust, exhaust, etc. These impacts are anticipated to be minimal and unlikely to result in significant effects. The Draft EIS will provide information on the characteristics of subsurface water resources in Lower Puna and analyze any potential impacts from the Proposed Action. The Draft EIS will also discuss erosion control measures and standard operating procedures which reduce impacts that may affect water quality.

3.3 Biological Resources

The Puna District contains some of Hawai'i's last remaining native lowland wet forests (Dupuis 2012). Gagne and Cuddihy (1990) classified the vegetation in areas with similar geology, elevation, and rainfall to the Petition Area as Lowland Wet 'Ōhi'a/Lama Forest dominated by 'Ōhi'a (*Metrosideros polymorpha*) and lama (*Diospyros sanwicensis*), generally occurring on young volcanic terrains in windward Hawai'i Island. Over the last 100 years, the conversion of land to agriculture and residential development has fragmented the landscape in Puna's lowland wet forests. This has led to invasion by alien plant species and degradation of native plant communities (Cuddihy and Stone 1990; Dupuis 2012). In Dupuis' survey of lowland wet forest reserves, the following proportions of absolute canopy cover were estimated: 'ōhi'a (44%), strawberry guava (*Psidium cattleianum*) (30%), hala (*Pandanus tectorius*) (30% strictly in the lowest 100 meters elevation zone), lama (8%), kōpiko (*Psychotria hawaiiensis*) (8%), albizia (*Falcataria moluccana*) (8%), cecropia (*Cecropia obtusifolia*) (7%), *Melastoma septemnerium* (5%), and ironwood (*Casuarina equisetifolia*) (3%) (Dupuis 2012).

In 2013, Ron Terry, Ph.D., and Patrick J. Hart, Ph.D. of Geometrician Associates, LLC (Terry & Hart 2013) performed a high-level biological survey of a 309-acre area of the property encompassing, but not particularly distinguishing, the Petition Area. This work described the canopy as 10 to 15 meters high with a well-developed shrub and fern layer of native and alien species, with scattered emergent 'ohe (*Tetraplasandra hawaiiensis*). Anthropogenic, or human-caused, disturbance has been a critical factor influencing vegetation. They described the study area as a mosaic of patches with undisturbed surface along with areas affected by sugar cane cultivation, roads and railroad beds, papaya farming, and cinder mining. Of the 130 plant species observed within the 309-acre study area, 20 are indigenous (found in Hawai'i and elsewhere) and 20 are endemic (found only in Hawai'i). Of particular note is the large number of individuals of rare species in forests dominated by 'ōhi'a, including *tetraplasandra hawaiiensis* and the listed endangered species *Cyrtandra nanawalensis*.

The faunal survey focused on native vertebrates, including birds and the Hawaiian hoary bats, because of their conservation value. It is recognized that non-native birds, mammals, and reptiles have values for various purposes and may also merit attention for the negative interaction with native plants and animals. Twelve species of birds were detected either opportunistically during plant surveys or as part of the systematic bird counts. Three native birds, Hawai'i 'Amakihi (*Hemignathus virens*), the 'Apapane

(*Himatione sanguinea*), and the Hawaiian Hawk (*Buteo solitarius*), were detected. All other birds seen or heard were non-native introductions. A total of 90 individuals from eight species were detected, with the two native Honeycreeper species comprising almost half (44/90) of the total detections, with Hawai'i 'Amakihi accounting for 31 individuals present at 6 stations, and the 'Apapane for 13 individuals at 5 stations. The most common non-native species was the Japanese White-eye, with 26 individuals at 6 stations. Other native forest birds could possibly be present, although the lowland elevation (maximum 1,071 above sea level atop Pu'u Kali'u) precludes heavy use by those native forest bird species mostly restricted to elevations above 4,000 feet, where the vegetation is more intact and mosquitos and the diseases they cause are less prevalent.

Based on its prominent elevation and potentially suitable habitat (over an acre of 'uluhe fern near the summit), it is possible that it might be suitable nesting habitat for three species of rare seabirds: the federally endangered Hawaiian Petrel ('Ua'u; *Pterodroma phaeopygia sandwichensis*), the federally threatened Newell's Shearwater ('A'o; *Puffinus auricularis newelli*), and the Band-rumped Storm-Petrel (*Oceanodroma castro*), which is listed as endangered by the State of Hawai'i. Nocturnal surveys over several nights during the breeding season for Newell's Shearwater in 1993 by the U.S. Geological Survey, Biological Resources Division, detected the calls of two individuals (Reynolds and Ritchotte 1997).

The endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) is often found in alien as well as native vegetation in a variety of locations throughout the island of Hawai'i. These solitary bats are widely scattered and roost almost undetected in tall shrubs and trees. Although no bat surveys were performed, and no bats were observed during survey work, they have been observed in many areas of Puna and should be presumed to be present at least occasionally and to roost somewhere in the area around Pu'u Kali'u. All other mammal species found on the island are alien species (introduced to Hawai'i by man). In the Petition Area, these may include feral dogs, cats, rats, mice, pigs, and mongooses.

In 2019, Johnathen Rathbun and Jennifer Johansen also did a biological study of the Petition Area. The Rathbun and Johansen (2019) examined the impacts of Rapid 'Ōhi'a Death (ROD), invasive species, and the 2018 Kīlauea eruption on native vegetation in the Petition Area. Three primary vegetation zones were identified: the active quarry site, previously quarried areas with regrowth dominated by non-native ironwood and invasive groundcover and degraded native forest patches outside quarry disturbances. Severe declines in native 'ōhi'a tree populations due to ROD have led to a shift toward invasive understory species like strawberry guava, resulting in further ecological degradation and reduced biodiversity. Additionally, the study noted potential habitat for the endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*), though none were observed, and identified suitable conditions for endangered and threatened bird species, including the Hawaiian hawk (*Buteo solitarius*), Hawaiian petrel (*Pterodroma sandwichensis*), band-rumped storm petrel (*Oceanodroma castro*), and Newell's shearwater (*Puffinus auricularis newelli*), which may occasionally visit the area. The endangered plant *Cyrtandra nanawaleensis* was found within the Petition Area but outside quarry-affected zones. Recommended protections include surveys to prevent nesting disturbances, buffer zones around critical habitats, using acoustic sound meters to detect the presence of Hawaiian hoary bat (*Lasiurus cinereus semotus*) and implementing avoidance and minimization measures if detected.

In November 2024, Maya LeGrande conducted a follow-up biological survey of the Petition Area (LeGrande, 2024). The 2024 survey classifies the forest as characterized by a disturbed Lowland Wet 'Ōhia Forest, modified by geological and anthropogenic forces over the last few centuries, most recently the 2018 Lower East Rift Zone (Kīlauea) eruption. Within the 2024 study, LeGrande

recognizes the native habitat on and around Pu‘u Kali‘u as poor, with declining numbers of native species due to residual damages from the 2018 eruption, Rapid ‘Ōhi‘a Death (ROD), and continued landscape modifications. Rare floral species identified include one *Polyscias hawaiiensis* tree and two populations of *Cyrtandra nanawaleensis*, both in declining numbers in their home ranges. The 2024 survey confirmed the severe decline in the ‘ōhi‘a tree populations, as identified in the preceding biological studies, due to ROD. The survey also recognized potential habitats for the previously established avian resources and mammals, in particular the threatened Hawaiian hawk (‘Io), the Hawaiian hoary bat (‘ōpe‘ape‘a), and the endangered seabirds (Hawaiian petrel, band-rumped storm petrel, and Newell’s Shearwater). Recommended mitigations resulting from the 2024 survey include intermittent surveys prior to planned vegetation removal and quarry expansion, an updated Landscaping Plan with protocols limiting introduction of new pests and the spread of known noxious plant, invertebrate, and animal species, and light minimization efforts for night-time activities.

Potential Impacts: The Draft EIS will include the results of ongoing botanical and faunal surveys that will focus especially on the presence of species listed as endangered, threatened, or proposed by the USFWS and/or DLNR that are likely to occur in the Petition Area. The Draft EIS will discuss direct impacts to specific biotic components as well as secondary and cumulative impacts, such as wildfire hazard, and will propose avoidance and minimization measures as necessary. Additionally, the Draft EIS will summarize the Landscaping Plan to be utilized at Sanford Service Center. The Applicant will establish fenced buffer zones around areas with known *Cyrtandra nanawaleensis*, an endangered species. Buffer zones will follow the recommended USFWS Avoidance and Minimization Measures for listed plant species. For ground disturbances resulting from heavy equipment, the USFWS recommended buffer distance is 250 meters (820 feet).

3.4 Air Quality

Air pollution in the Puna District is mainly derived from volcanic emissions containing sulfur dioxide, which convert into particulate sulfate and produce a volcanic haze, or “vog.” Typically, the northeast-trending trade winds blow the volcanic emissions away from the Petition Area towards the Kā‘ū District. However, during periods of so-called kona, or westerly or southerly winds, there may be more vog in Puna District.

The Clean Air Act of 1972 as amended (CAA), along with subsequent legislation, regulate air emissions from area, stationary, and mobile sources. Both the U.S. Environmental Protection Agency (USEPA) and the State of Hawai‘i have instituted Ambient Air Quality Standards (AAQS) to maintain air quality in the interest of public health and secondary public welfare. At present, seven parameters are regulated, including particulate matter, sulfur dioxide, hydrogen sulfide, nitrogen dioxide, carbon monoxide, ozone, and lead. Hawai‘i’s AAQS are, in some cases, considerably more stringent than the comparable National Ambient Air Quality Standards (NAAQS). In particular, Hawai‘i’s 1-hour AAQS for carbon monoxide is four times more stringent than the comparable national limit.

While the 2018 Kilauea eruption caused severe air quality impacts that temporarily halted quarry activities, the overall volcanic emissions from Kilauea volcano are currently within a rate representative of noneruptive conditions (USGS 2024). The HDOH maintains a network of air quality monitoring stations, with the following stations in the Petition Area’s vicinity: Leilani Estates, Pahoa High School, and Kalapana. These stations usually report no sulfur dioxide (SO₂) detected, with occasional detections of concentrations below 1 ppm.

Quarrying and mining activities may produce minor impacts on air quality that are not apparent beyond the Petition Area boundary. These include fugitive dust emissions from excavation and vehicle

movement, as well as vehicle exhaust emissions that contain particulates, carbon monoxide (CO), and carbon dioxide (CO₂). Factors specific to the quarry mean that air quality impacts are normally very minor. These factors include nearly daily rainfall, the small number of trucks accessing the site, and the specific method of mining. The quarry does not use a rock crusher; only screens are used to process excavated material. Also, no blasting is performed due to the soft and easily extractable nature of the cinders.

The quarry produces virtually no dust, as the material mined has only a small fines content. Since the material contains very few small particles, only minimal dust is produced from physical disturbance of cinders or by vehicle wheels. Additionally, areas not being actively mined are quickly revegetated. While the generally wet climate reduces dust emissions, all truck loads removed from the Petition Area are covered. Despite the proposed expansion of mining and quarrying activities, the number of vehicles accessing the Petition Area and operational heavy machinery are not expected to increase, suggesting little to no increase in vehicle exhaust emissions. Because levels of criteria pollutants in Hawai'i are consistently below Federal and State AAQS, and because prevailing trade winds rapidly carry pollutants offshore, increases in levels of criteria pollutants in the Petition Area and at the locations of nearby sensitive receptors would not be observed.

Potential Impacts: The Draft EIS will evaluate the potential for fugitive dust emissions and vehicle exhaust emissions from the Proposed Action and necessary mitigation.

3.5 Hazardous Substances, Wastes, and Conditions

A review of land use history and site reconnaissance revealed no evidence of hazardous materials. The Proposed Action is not likely to encounter any hazardous substances, toxic waste, or hazardous conditions. Construction activities would use small quantities of fuels to power generators and construction equipment. These would be stored away from equipment and potential sources of ignition. Vehicles and equipment are fueled using portable fuel tanks, are serviced off-site, and are well-maintained. Drip pans are used to minimize the potential for fluid releases during fueling activities and storage.

Potential Impacts: The Draft EIS will discuss the development of “Good Housekeeping” and Spill Prevention plans for emergency spill treatment, storage, and disposal of all hazardous materials.

3.6 Noise

Noise during industrial activities is normally mitigated through compliance with the Department of Health Community Noise Control Rules, which define maximum permissible noise levels for construction equipment and prescribe mitigation measures to achieve these levels. Noise-sensitive receptors in the Petition Area are no closer than ½ mile, located either in Leilani Estates or along Kamaili Road (Opihikao Road). Noise from mining activities appears to be adequately reduced by a combination of distance, vegetation, and topography.

Potential Impacts: The Draft EIS will evaluate whether noise from ongoing mining activities has the potential to impact nearby sensitive receptors.

3.7 Socioeconomics

Because of the gradual occupation of lots developed during widespread land subdivision about fifty years ago, the Puna District has been Hawai'i Island's fastest-growing district over the last thirty years. Population as measured in the 2020 census was 51,704, a 14 percent increase over the 2010 count of 45,326. Despite a lack of basic infrastructure such as paved roads and water in most subdivisions, the relatively inexpensive lots, typically ranging in size from one to three acres, have attracted residents from the continent and other parts of the State of Hawai'i who seek affordable property.

The basis of the economy of Puna has evolved from cattle ranching and sugar to diversified agriculture, various services for the growing population, commuting to Hilo, and tourism, which has been stimulated by being home to Kīlauea, one of the world's most active volcanoes. Some census-designated places in Puna, such as Mt. View, Hawaiian Acres, Fern Acres, and Eden Roc, are growing bedroom communities for Hilo's workforce. This is evidenced by the heavy flow of Hilo-bound traffic during the AM rush hour, which is also derived from school traffic.

Sanford's Leilani Quarry produces a low-density, black-colored cinder highly valued by the nursery industry and is almost exclusively used by Hawai'i Island nurseries. There are 80 State Plant Industry Division certified nurseries on Hawai'i Island, 17 on O'ahu, 13 on Maui, and 3 on Kaua'i. Nurseries are certified by the State in order to export products from Hawai'i (State Department of Agriculture 2024).

Unfortunately, there is limited information concerning the economic productivity of mines, as government agencies generally categorize mining and construction together due to the role of engineered material in construction. As a result, data sources, including the State Department of Business, Economic Development, and Tourism (DBEDT), provide employment figures for "Natural Resource, Mining & Construction" as a combined category rather than for mining alone. According to the Census of Agriculture, the total value of crops in the County of Hawai'i, including greenhouse and nursery crops (excluding livestock and poultry), was \$514.5 million in 2022 (Vilsack, 2024). Further, in 2022, the horticulture industry was valued at \$47.1 million within the State of Hawai'i (DOA, 2023). Apart from direct employment by Sanford's Service Center, which employs a total of 25–30 people, the Proposed Action would support an important industry in both the County and State of Hawai'i.

Potential Impacts: The Draft EIS will investigate the socioeconomic and economic characteristics of the project vicinity and evaluate the Proposed Action's impacts.

3.7.1 Educational Resources

The following schools operated by the State of Hawai'i Department of Education are located near the Petition Area: Pāhoā Elementary School, Pāhoā Intermediate and High School (both approximately 5 miles from the Petition Area), and Keonepoko Elementary School (approximately 8 miles from the Petition Area). Additionally, there are three public charter schools within the Pāhoā district complex: Hawai'i Academy of Arts & Science Public Charter School (approximately 5 miles from the Petition Area), Ke Kula Nawahiokalani'ōpu'u Iki Lab Public Charter School (approximately 15 miles from the Petition Area), and Kua O Ka Lā Public Charter School (approximately 25 miles from the Petition Area). The Kamehameha Schools Hawai'i campus is located approximately 18 miles from the Petition Area. The Applicant does not intend to increase the number of workers onsite as a result of the Proposed Action, and therefore the Proposed Action is not expected to impact educational facilities in the region or increase the need for educational resources.

3.8 Historic and Cultural Resources

The Petition Area is situated in the ahupua'a of Kauaea in the Puna District. Shortly before the historic period, 'Umi-a-Līloa seized control of Puna from Hua'a, thereby unifying control of the island. During Kalani'ōpu'u's rule, the Puna chief Imakakoloa attempted a rebellion, seizing valuable products from Puna, including 'ō'ō and mamo bird feathers, hogs, lau hala mats, and tapa cloths. A conflict over ascendancy erupted after Kalani'ōpu'u's death in 1782, culminating in the battle of Moku'ōhai (Kamakau 1961, Kuykendall 1938). Following this battle, Keōua Kū'ahu'ula held Ka'ū and a portion of Puna, Keawema'uhili controlled the remainder of Puna, Hilo, and southern Hāmākua, and Kamehameha controlled northern Hāmākua, Kohala, and Kona. The island was finally re-unified in 1791 when Kamehameha killed Keōua at Kawaihae.

Early historic accounts describe Puna as well populated and intensively cultivated. In 1823, Ellis reported a sandy beach and settlement at Kaimū with an estimated 725 occupants, along with plantations and groves of coconuts and kou. Ellis also described a village at Kamā'ili where his group was given taro and potatoes and noted the cultivation of bananas and sugar cane. He estimated that the total population of Kaimū and its vicinity was approximately 2,000 (Ellis 1825).

Prior to the 1870s, most foreign influence in Puna was due to missionary presence. In the late 1870s, Robert Rycroft moved to Pohoiki and built a home, wharf, sawmill, jail, and courthouse, and cultivated coffee. In the mid-1880s, the government began selling land in Puna for homesteads; however, it appears that only one Land Commission Award (LCA) was granted in Kauaea, to Victoria Kamāmalu, Kuhina Nui of the Hawaiian Islands between 1855 and 1863.

An 1895 Hawai'i Government Survey map of Puna depicts a network of roads and paths, three of which are labeled as roads: the Government Road paralleling the shoreline, the Puna Road located in Kaniahiku and Keahialaka Ahupua'a, and Rycroft's Road in Pohoiki. Several trails are listed as ancient in origin, including the Kauaea Trail in Kauaea ahupua'a and the Kipapaia Trail in Kamā'ili. The Kauaea Trail originates at a coconut grove and community named Kikiikii located makai of the Petition Area. However, none of these trails enter the Petition Area.

A Cultural Impact Assessment (CIA) for the Petition Area was completed in 2015 and updated in 2019 by Maria Orr, M.A., of Kaimipono Consulting Services LLC. The CIA was performed in a manner consistent with Chapter 343, HRS, and OEQC's *Guidelines for Assessing Cultural Impacts* (November 1997) and included intensive surveys of the affected areas, investigation of records, and discussions with experts, residents, and practitioners. The CIA identifies Pu'u Kali'u as a prominent feature in the vicinity of, but outside of, the Petition Area and describes Sanford's Service Center's current quarrying activity as being conducted in a direction away from the Pu'u. The CIA further explains that the License Agreement expressly prohibits Sanford's Service Center from mining Pu'u Kali'u. The CIA concludes that "cultural impact will be a non-issue for this project since the [quarrying] expansion will not jeopardize the summit of Pu'u Kali'u—the Newell's Shearwater nesting grounds, the USGS triangulation station, or access to cultural resource areas."

Potential Impacts: The Draft EIS will carefully analyze potential impacts to historic and cultural resources, traditional and customary practices, and beliefs. The Draft EIS will examine the existing conditions of cultural resources such as specific flora and fauna identified in biological surveys (including threatened and endangered species), cultural practices and resources identified in the CIA, and from informant testimony. Impacts will be analyzed from the Proposed Action on these resources.

The Draft EIS and CIA will provide information necessary, in a dedicated section, for the Approving Agency to conduct a Ka Pa‘akai analysis. A Ka Pa‘akai analysis is a structured assessment to ensure the protection of Native Hawaiian traditional and customary practices in the context of land use planning and environmental review, originating from the landmark Hawai‘i Supreme Court decision “Ka Pa‘akai o Ka ‘Āina v. Land Use Commission” (2000). This analysis requires three core elements: 1) identify any cultural resources and practices; 2) evaluation the impacts to cultural resources and practices; and 3) provide mitigation for adverse effects. This framework aims to ensure that cultural considerations are an integral part of the decision-making process.

3.9 Archaeological Resources

In 2012, Haun & Associates performed an archaeological inventory survey (AIS) for a 309-acre portion of the encompassing parcel. The AIS identified four sites located within the Petition Area. These features and sites are described as follows:

- Site 29723: A portion of a trail (precontact) located in the southwestern corner of the Petition Area.
- Site 29724: A complex of four historic roads.
- Site 29725: A historic survey marker located near the access road.
- Site 29727: A historic triangulation station located at the summit of Pu‘u Kali‘u, used for this purpose since as early as 1895 (Swanson et al. 1976). This triangulation station supported surveys by the U.S. Coast and Geodetic Survey in 1958 and 1961, as well as ground movement measurements by the U.S. Geological Survey in 1970 and 1971 by personnel from the Hawaii Volcano Observatory. A sign marking this survey data point was located during the 2012 AIS.

Haun & Associates submitted the AIS to the State Historic Preservation Division (SHPD) on August 22, 2013. On September 23, 2013, SHPD concurred with the AIS’s significance assessments of Sites 29724, 29625, and 29727 as being significant under HAR 12-394-6 Criterion “d” and noted that no further work or preservation was necessary on these sites. SHPD further concurred that Site 29723 had been properly assessed as being culturally significant under Criterion “e” as a named trail and agreed an SPP was required.

Haun & Associates submitted the Site Preservation Plan for SIHP 29723 on May 16, 2014. The plan outlines the preservation measures that will be used to ensure the conservation and perpetual preservation of Kauaea Trail that was recommended for preservation in the accepted AIS. The plan notes that a permanent buffer will be 10 feet with a 15-foot temporary buffer zone during construction. SHPD accepted the SPP on June 24, 2014, noting that the plan meets the requirements of HAR 13-277.

Potential Impacts: The Draft EIS will carefully analyze the Proposed Action’s impacts on archaeological resources. The Draft EIS will also document consultation and concurrence with the State Historic Preservation Division and will discuss the SPP in detail.

3.10 Public Facilities, Infrastructure, and Utilities

No utilities or wastewater treatment are provided to the site; wastewater is contained within regularly serviced on-site portable toilets. Solid waste is collected in trash bins, regularly removed from the site,

and disposed of appropriately. No other public facilities are present. No adverse impact to public facilities or utilities is anticipated.

3.11 Land Use

3.11.1 Agricultural Value of Land

Of the three categories of valuable agricultural land identified in Hawai'i through the Agricultural Lands of Importance to the State of Hawai'i (ALISH) map series (State Department of Agriculture 1977), Ke'āmuku contains some "Other Important Agricultural Lands" but no Prime or Unique Agricultural Lands (**Figure 6**). Other Important Agricultural Lands are those lands of statewide or local importance for agricultural use, other than those classified as Prime or Unique. They make up roughly 18 percent of the county's land area.

These current classifications of soil and agricultural value show that the land within the Petition Area is composed largely of hydrous loam (a mixture of sand, silt, and clay with a high moisture content) (**Figure 7**). The University of Hawai'i Land Study Bureau (LSB) classification assigns soils productivity ratings from A (highest) to E (lowest). The Petition Area is made up of land classified as "C" and "D", which represent lower productivity categories (**Figure 8**). Soil classification of "C" denotes medium productivity, often supporting limited or marginal agricultural activities. These soils can sustain some types of crops with proper management but are not optimal for high-yield production. Soil classification of "D" indicates soils of low productivity. These lands generally require substantial amendments, such as fertilizers or irrigation, to achieve minimal agricultural viability. They are often considered unsuitable for significant agricultural endeavors without extensive intervention.

Potential Impacts: The Draft EIS will evaluate the agricultural value of the land using map data, including soil types, ALISH, and LSB classifications, and through consultation with federal, state, and local agricultural officials and organizations.

3.11.2 Recreational Resources

Although there are no public parks within the Petition Area, the lower Puna shoreline is located several miles makai.

Potential Impacts: The Draft EIS will analyze impacts on recreational and hunting areas.

3.11.3 Scenic Resources

The County of Hawai'i General Plan identifies sites and vistas of natural beauty. Scenic values in the area are derived from the wide vistas of volcanoes, grasslands, and coastal waters, and the high contrast between the moist uplands and arid lowlands, and between the stark lava flows and windswept grasslands. The General Plan does not note specific viewplanes or sites in the Petition Area but does state that the coast of Puna and the inland volcanic regions are significant. Viewed from the north, the viewplane towards the Petition Area has been changed by the 2018 eruption, with the addition of the taller Fissure 8 spatter cone located about 0.7 miles northeast of Pu'u Kali'u. Quarrying activities would not impact the profile of Pu'u Kali'u due to license conditions.

Potential Impacts: The Draft EIS will include an evaluation of the scenic impacts of the Proposed Action, including the opportunities to provide new scenic vistas and the impacts on pu'u (cinder cones) within the Petition Area.

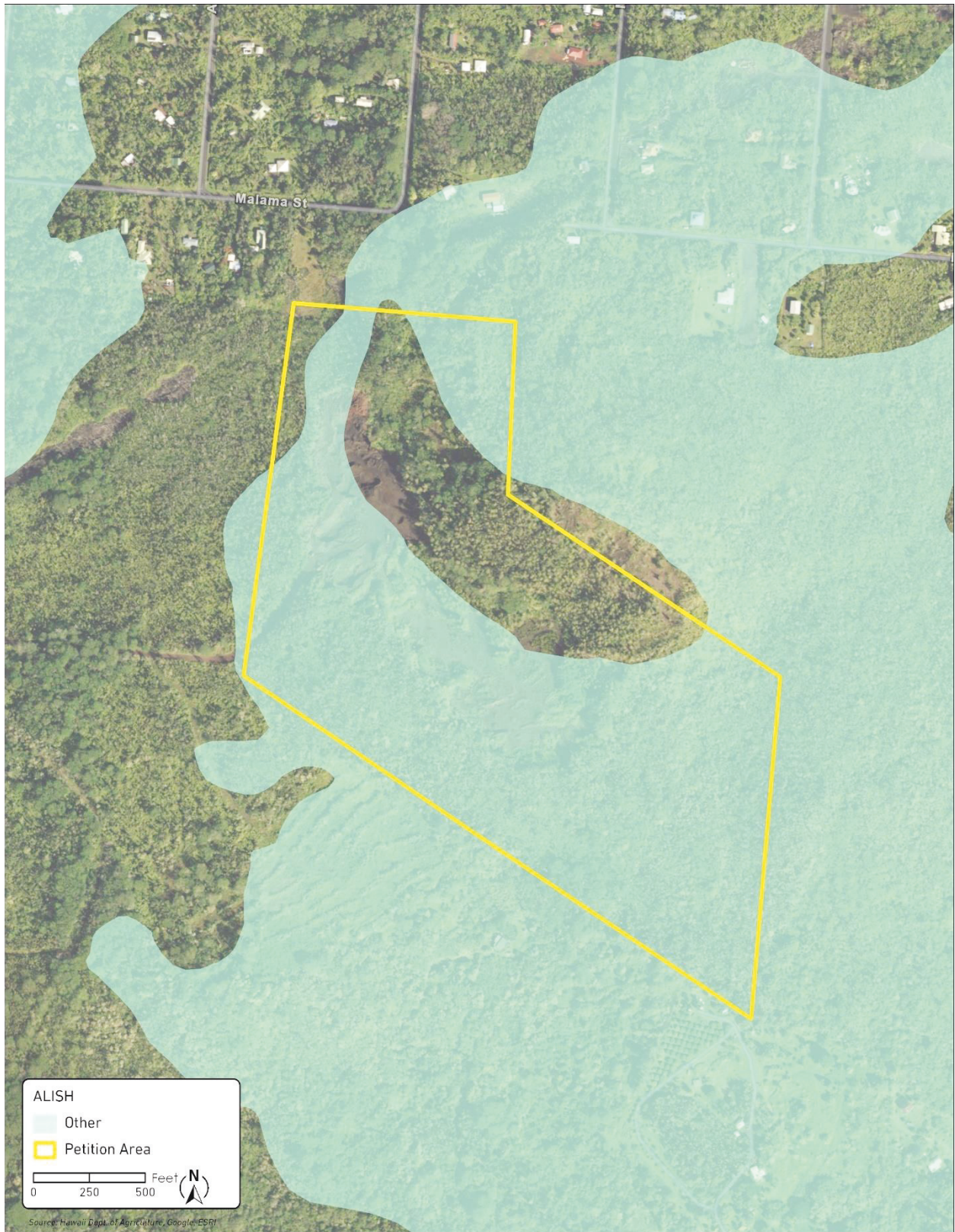


Figure 6: Agricultural Lands Important to the State of Hawai'i

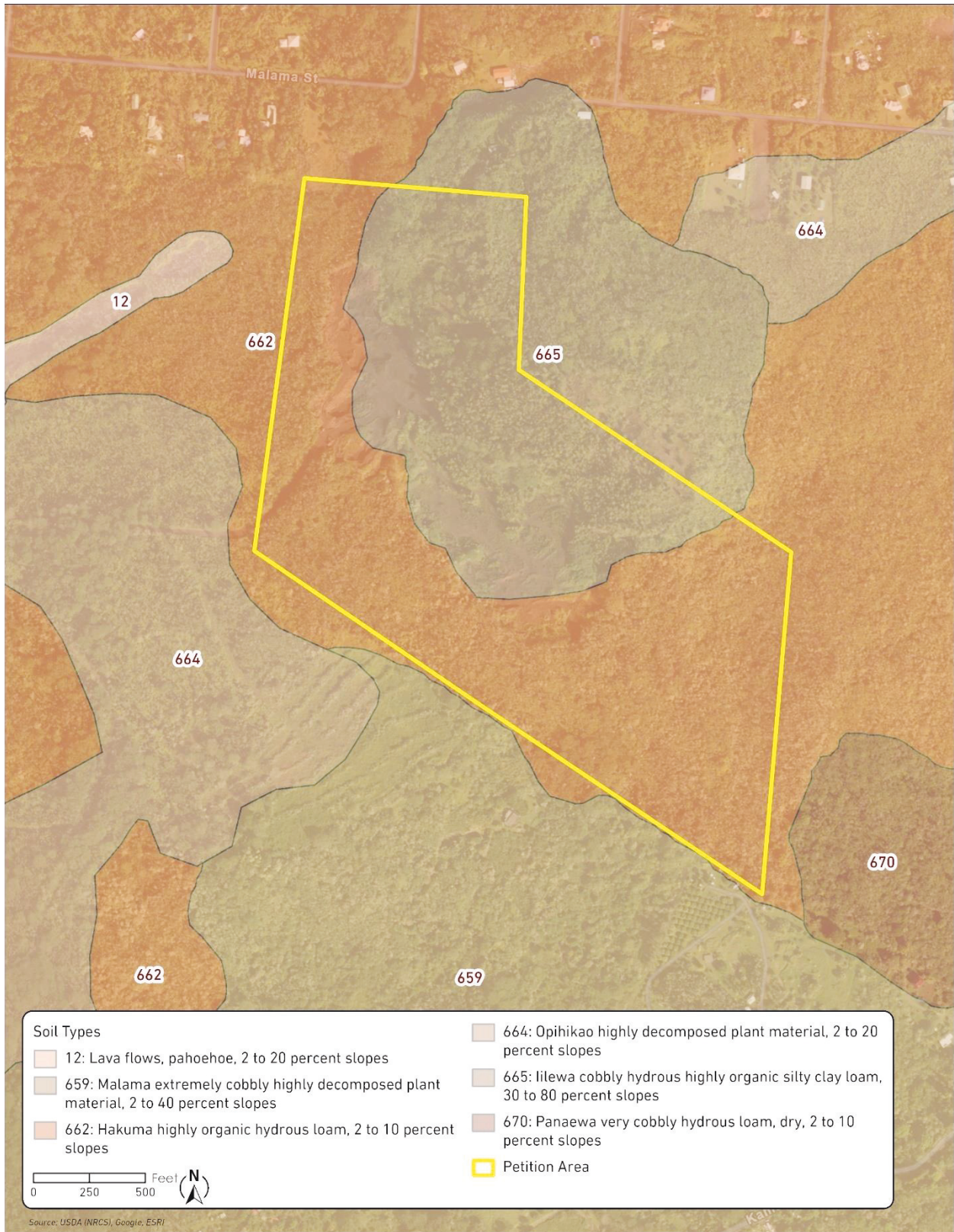


Figure 7: Soil Types

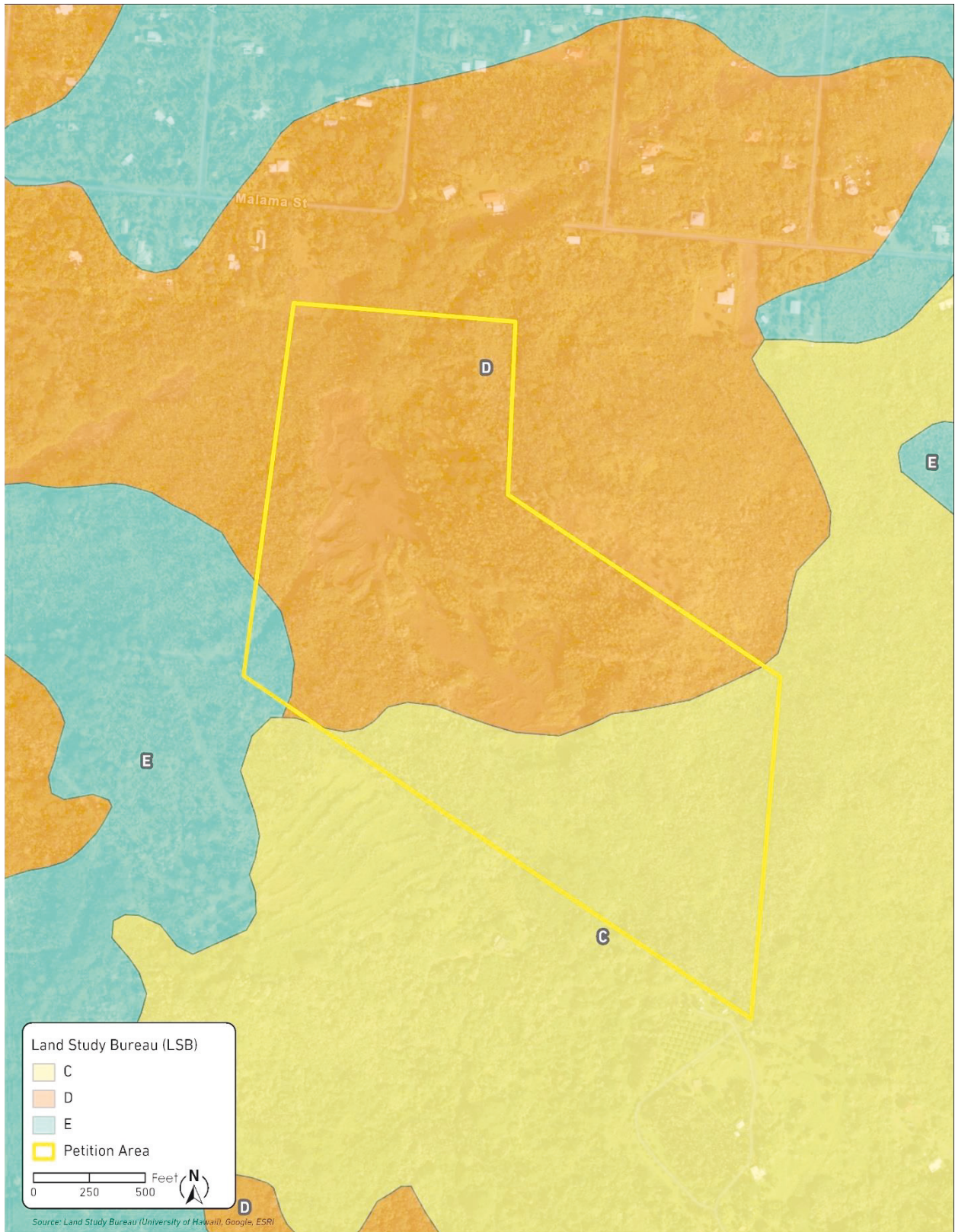


Figure 8: Land Study Bureau Classification

4.0 Cumulative Impacts and Other Considerations

4.1 Secondary and Cumulative Impacts

Cumulative impacts result when implementation of several projects or actions that individually have limited impacts combine to produce more significant impacts or conflicts in mitigation measures. The adverse effects of the Proposed Action, including minor and temporary disturbances to air quality and noise, are limited in severity, nature, and geographic scale. At present, there are no known planned projects near the Petition Area.

Potential Impacts: The Draft EIS will evaluate planned and Proposed Actions in the vicinity of the Petition Area to determine the potential for secondary and cumulative impacts.

4.2 Consistency with State and County Land Use Plans, Policies, and Controls

Various State and County plans, policies, and land use controls provide guidelines for land use and development within the State, including the Hawai'i State Plan, State Functional plans, and the State Land Use Plan. The Draft EIS will discuss the Proposed Action's consistency with these State and County plans and policies, including a summary of past permitting and compliance activities. Key areas discussed are as follows:

4.2.1 State of Hawai'i Land Use Law

All land in the State of Hawai'i is classified into one of four land use categories—Urban, Rural, Agricultural, or Conservation—by the State Land Use Commission, pursuant to Chapter 205, HRS. The State Land Use Commission, under Chapters 205 and 205A, HRS, and Chapter 15-15, HAR, is empowered to classify all lands in the State into these four land use districts. The Petition Area is currently in the Conservation District. Conservation Districts are further divided into five subzones: Protective, Limited, Resource, General, and Special. The Petition Area is located entirely within the Limited Conservation District subzone.

The objective of the Limited (L) subzone, as described by HAR 13-5-12, is to “limit uses where natural conditions suggest constraints on human activities.” The Limited subzone includes: land susceptible to floods and soil erosion, lands undergoing major erosion damage requiring corrective attention; land necessary for the protection of public health, safety, and welfare due to risks from tsunami, flooding, volcanic activity, or landslides; or lands with a general slope of forty percent or more.

Section 13-5-23 HAR lists permitted activities in the Limited subzone, supplementing those permitted in the Protective subzone. Mining or quarrying is not a permitted activity in either the Limited or Protective subzone. Ongoing mining and quarrying activities became a legal non-conforming use after the Conservation District rule revision of 2011, as ongoing mining activities were permitted since 1957 under Conservation District Use Permit CDUP-1957.

HRS 205-4.5 enumerates permissible uses within the Agricultural Districts. Approval of the Petition would reclassify the Petition Area to the State Land Use Agricultural District. Mining and quarrying activities are an allowable use in the Agricultural District with a Special Permit from both the Hawai'i County Planning Commission and the State Land Use Commission.

Potential Impacts: The Draft EIS will provide a discussion on the conformance of previous and ongoing mining and quarrying activities with State land use rules and law. The Draft EIS will include a list of current and previous permits, including Conservation District Use permits.

4.2.2 The Hawai'i State Plan

The Hawai'i State Plan, as outlined in Chapter 226, HRS, guides goals, objectives, policies, and priority guidelines for the State. The plan establishes a basis for determining priorities, allocating resources, and improving coordination among State and County plans, policies, programs, projects, and regulatory activities. The Proposed Action aligns with several applicable goals, objectives, policies, and priority guidelines of the Hawai'i State Plan. The Draft EIS will discuss the Proposed Action's relevance to the State Plan's goals, objectives, policies, and priority guidelines.

4.2.3 Hawai'i State Functional Plans

The Hawai'i State Plan calls for the creation of Functional Plans by State agencies in specific program areas. These twelve Functional Plans—covering agriculture, transportation, conservation lands, housing, tourism, historic preservation, energy, recreation, education, health, human services, and employment—contain objectives, policies, and implementing actions to achieve the goals of each plan. Applicable Functional Plans will be discussed in the Draft EIS.

4.2.4 Coastal Zone Management

The purpose of Chapter 205A, HRS, is to preserve, protect, develop, and enhance the resources of the coastal zone. The Draft EIS will address the Proposed Action's conformance with relevant sections of Chapter 205A, HRS.

4.2.5 Hawai'i County General Plan

The County of Hawai'i's General Plan (adopted by ordinance in 2005) is a policy document expressing broad goals and policies for the long-term development of the island. The Draft EIS will address the goals, objectives, and standards relevant to the General Plan and will also discuss the Puna Community Development Plan, developed under the General Plan framework. Community Development Plans (CDPs) translate broad General Plan goals, policies, and standards into specific regional implementation actions.

The Hawai'i County General Plan is subject to an ongoing revision. The Final Recommended Draft General Plan 2045 is currently publicly available. Since the General Plan 2045 is nearing completion, the Draft EIS will also consider the goals, objectives, and standards presented in the Final Recommended Draft General Plan 2045 to ensure the Proposed Action's future long-term consistency.

The Land Use Pattern Allocation Guide (LUPAG) is a key land use planning framework established in the County of Hawai'i General Plan. It serves as a guide for decision-making regarding land use and development, reflecting community objectives for growth, conservation, and urban expansion. The LUPAG designates land into various categories such as urban, rural, agricultural, and conservation areas. The LUPAG designation map for the Petition Area is included in **Figure 9**; the Petition Area is designated as Conservation. Importantly, the Final Recommended Draft General Plan 2045 has updated its land district classifications to General Plan Land Use (GPLU) designations. Under the GPLU and associated Final Recommended Draft General Plan 2045, the Petition Area would be changed from a LUPAG designation of Conservation to a GPLU designation of Productive Agriculture. The Draft EIS will assess how the Proposed Action is consistent with both the LUPAG and GPLU designations.

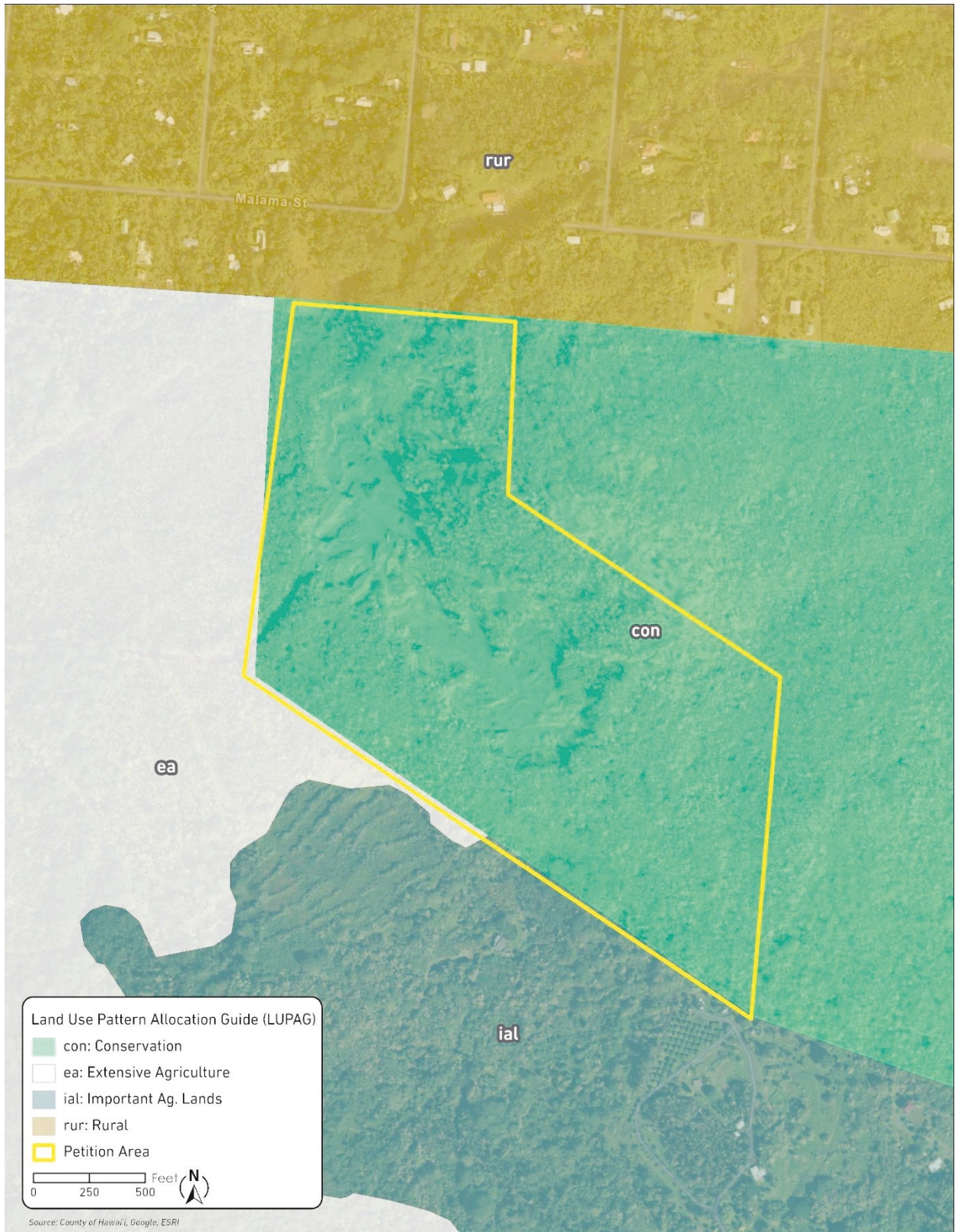


Figure 9: Land Use Pattern Allocation Guide

5.0 Significance Determination

Table 2 below provides the thirteen Significance Criteria enumerated in HAR 11-200.1-13 which the EIS will use to assess impacts from the Proposed Action.

Table 2 – Significance Criteria, HAR 11-200.1-13
<p>(1) Irrevocably commit a natural, cultural, or historic resource; Discussion: Cinder from the Petition Area will be mined, which may be considered an irrevocable commitment of a natural resource. The mined areas will be re-naturalized following the landscaping and naturalization plan.</p>
<p>(2) Curtail the range of beneficial uses of the environment; Discussion: The Proposed Action is not anticipated to curtail the range of beneficial uses of the environment. Surrounding land uses include residential and agricultural lots and undeveloped forest.</p>
<p>(3) Conflict with the State’s environmental policies or long-term environmental goals established by law; Discussion: The Proposed Action is not anticipated to conflict with the State’s environmental policies or long-term environmental goals established by law. A State Land Use District Boundary Amendment to Agricultural District would provide additional conformance to State environmental policy.</p>
<p>(4) Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State; Discussion: The Proposed Action is not anticipated to have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State. The Proposed Action will enable the continuation of a local business which benefits the local community and horticultural industry for the entire State.</p>
<p>(5) Have a substantial adverse effect on public health; Discussion: The Proposed Action is not anticipated to have a substantial effect on public health. Sanford’s Service Center follows Standard Operating Procedures to maintain safe conditions.</p>
<p>(6) Involve adverse secondary impacts, such as population changes or effects on public facilities; Discussion: The Proposed Action is not anticipated to involve adverse secondary impacts.</p>
<p>(7) Involve a substantial degradation of environmental quality; Discussion: The Proposed Action is not anticipated to involve a substantial degradation of environmental quality. The Petition Area includes Buffer Areas to protect adjacent land. After the conclusion of mining activities, the Applicant will operationalize its landscaping and naturalization plan.</p>
<p>(8) Be individually limited but cumulatively have substantial adverse effects upon the environment or involves a commitment for larger actions; Discussion: The Proposed Action is not expected to have significant cumulative impacts and does not involve a commitment for larger actions.</p>
<p>(9) Have a substantial adverse effect on rare, threatened, or endangered species, or its habitat; Discussion: The Proposed Action may have the potential to pose substantial adverse impacts upon threatened or endangered plant species and their habitat. The Petition Area is known to contain Cytandra nanawaleensis, an endangered plant. The Draft EIS will present further information inclusive of an update as to the distribution of identified endangered species within the Petition Area and propose mitigation measures.</p>
<p>(10) Have a substantial adverse effect on air or water quality or ambient noise levels; Discussion: The Proposed Action is not anticipated to have a substantial adverse effect on air or water quality or ambient noise levels. However, since quarrying and mining activities involve soil disruption and</p>

heavy machinery, the Draft EIS will carefully assess the Proposed Action's impacts on air, water quality, and noise.

(11) Have a substantial adverse effect on, or be likely to, suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;

Discussion: The Proposed Action is not located within a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, estuary, fresh water (surface), or coastal waters. The Proposed Action is located within Lava Zone 1; and is under 1 mile from Fissure 8 and the site of the 2018 lower East Rift Zone eruption of Kīlauea. The Draft EIS will carefully assess the Proposed Action's impacts on geology and impacts from geohazards.

(12) Have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in county or state plans or studies; or

Discussion: The Proposed Action is not anticipated to have a substantial adverse effect on scenic vistas or viewplanes.

(13) Require substantial energy consumption or emit substantial greenhouse gases.

While mining and quarrying activities involve the use of heavy machinery, the scale of the Proposed Action is such that it would not require substantial energy consumption or emit substantial greenhouse gases.

6.0 References

- Dupuis, C.J. "Vegetation Patterns in Lowland Wet Forests of Hawai'i." Presented to the Faculty of the Tropical Conservation Biology and Environmental Science Program, University of Hawaii at Hilo, 2012.
- Ellis, William. *A Journal of a Tour Around Hawaii, the Largest of the Sandwich Islands*. Boston: Crocker and Brewster, 1825.
- Gagne, W., and L. Cuddihy. "Vegetation." In *Manual of the Flowering Plants of Hawai'i*, edited by W.L. Wagner, D.R. Herbst, and S.H. Sohmer, 45–114. 2 vols. Honolulu: University of Hawai'i Press, 1990.
- Giambelluca, T.W., Q. Chen, A.G. Frazier, J.P. Price, Y.-L. Chen, P.-S. Chu, J.K. Eischeid, and D.M. Delporte. "Online Rainfall Atlas of Hawai'i." *Bulletin of the American Meteorological Society* 94 (2013): 313–316. Accessed November 2024. <https://doi.org/10.1175/BAMS-D-11-00228.1>.
- Haun, A., and Henry, D. *Archaeological Site Preservation Plan Site 50-10-55-29723 Kauaea Ahupua'a Puna District, Island of Hawai'i TMK: (3) 1-3-09:POR.005*. 2013.
- Hawai'i State Legislature. *HB834 HD1 SD1 CD1*. 2021. Accessed December 19, 2024. https://www.capitol.hawaii.gov/session/archives/measure_indiv_Archives.aspx?billtype=HB&billnumber=834&year=2021
- Kamakau, S.M. *Ruling Chiefs of Hawaii*. Honolulu: Kamehameha Schools, 1961.
- Kuykendall, R.S. *The Hawaiian Kingdom*. Honolulu: University of Hawaii, 1938.
- LeGrande, M. *A Natural Resources Assessment for the Pu'u Kali'u Quarry Expansion Area, Puna Hawai'i Island*. 2024.
- Office of Environmental Quality Control (OEQC). *Guidelines for Assessing Cultural Impacts*. 1997. Accessed November 22, 2024. https://files.hawaii.gov/dbedt/erp/OEQC_Guidance/1997-Cultural-Impacts-Guidance.pdf.
- Orr, M., and Haun, A. *Cultural Impact Assessment for Sanford Service Center, Inc. for Expansion of Ahupua'a of Kauaea, Moku of Puna Hawai'i Island*. 2015.
- Rathbun, J., and J. Johansen. *Botanical Survey of Pu'u Kali'u*. 2019.
- Reynolds, M.H., and G.L. Ritchotte. "Evidence of Newell's Shearwater Breeding in Puna District, Hawaii." *Journal of Field Ornithology* 68 (1997): 26–32.
- State of Hawai'i. Department of Land and Natural Resources. *DLNR Provides Emergency Cinder Resource Vital for Tropical Floral Businesses on Hawai'i Island*. State of Hawai'i. Department of Land and Natural Resources. 2018. Accessed December 19, 2024. <https://dlnr.hawaii.gov/blog/2018/06/14/nr18-107/>

- State of Hawai'i. Department of Land and Natural Resources. *Progress Report on the Black Cinder Cone Quarry Site Survey*. 2021. Accessed December 19, 2024. <https://files.hawaii.gov/dlnr/reports-to-the-legislature/2022/EN22-Black-Cinder-Study-Progress-Rpt-FY22.pdf>
- State of Hawai'i. Department of Agriculture. *Statistics on Floriculture, State of Hawai'i, 2022*. 2023. Accessed December 19, 2024. https://hdoa.hawaii.gov/wp-content/uploads/2023/06/Floriculture-Stats-2022_SOH_05.31.2023.pdf
- State of Hawai'i. Department of Agriculture. *Agricultural Lands of Importance to the State of Hawai'i (ALISH) Maps*. 1977.
- State of Hawai'i. Department of Agriculture. *State Plant Industry Division. Certified Nurseries*. 2024. Accessed November 23, 2024. <https://hdoa.hawaii.gov/pi/pq/certified-nurseries/>.
- Swansen, D., Jackson, B., Koyanagi, R., and Wright, T. *The February 1969 East Rift Eruption of Kilauea Volcano Hawai'i*. Geological Survey Professional Paper 891. Washington, D.C.: U.S. Department of the Interior, 1976.
- Terry, Ron, and Patrick J. Hart. *Biological Survey, Pu'u Kali'u*. 2013.
- United States Geological Survey (USGS). *Damaging Earthquakes – A Common Hazard in Hawai'i*. 2017. Accessed November 23, 2024. https://volcanoes.usgs.gov/observatories/hvo/hazards_ea_rthquakes.html.
- United States Geological Survey (USGS). *Hawaiian Volcano Observatory Daily Update*. 2018. Accessed November 23, 2024. <https://volcanoes.usgs.gov/hans-public/notice/DOI-USGS-HVO-2018-09-09T12:08:29-07:00>.
- United States Geological Survey (USGS). *Hawaiian Volcano Observatory Daily Update*. 2024. Accessed November 2024. <https://www.usgs.gov/volcanoes/kilauea/volcano-updates>.
- Vilsack, Tom. "2022 Census of Agriculture Hawaii State and County Data." United States Department of Agriculture National Agricultural Statistics Service, February 2024. https://www.nass.usda.gov/Publications/AgCensus/2022/Full_Report/Volume_1,_Chapter_2_County_Level/Hawaii/.
- Wolfe, E.W., and J. Morris. *Geologic Map of the Island of Hawai'i*. USGS Miscellaneous Investigations Series Map I-2524-A. Washington, D.C.: U.S. Geological Survey, 1996.
- Wright, T.L., J.Y.F. Chun, Jean Exposito, Christina Heliker, Jon Hodge, J.P. Lockwood, and S.M. Vogt. *Map Showing Lava-Flow Hazard Zones, Island of Hawai'i*. U.S. Geological Survey Miscellaneous Field Studies Map MF-2193, scale 1:250,000, 1992.

Appendix A: Public Comment and Scoping Meeting Letter

To Whom It May Concern:

Sanford's Service Center, Inc., in coordination with the property owner, Kamehameha Schools, intends to petition the State of Hawai'i Land Use Commission to amend the State Land Use District designation for a 94.107-acre Petition Area from Conservation to Agricultural. The Proposed Action will allow expansion of cinder mining and quarrying activities within approximately 73 acres of the Petition Area, subject to the granting of a Special Permit by the Land Use Commission.

A virtual public scoping meeting will be held to provide information on the Proposed Action. The intent of the virtual public scoping meeting is to inform the public and answer questions about the Proposed Action and its potential environmental effects.

Date: Monday, January 20, 2024

Time: 6:00 PM - 7:30 PM

Platform: Microsoft Teams (request link via email to LeilaniQuarryProject@g70.design)

This scoping meeting is intended to provide information on the Proposed Action. Agencies and the public are encouraged to submit comments on effects or impacts from the Proposed Action. Comments may be submitted by emailing LeilaniQuarryProject@g70.design. Comments will be accepted from January 8, 2025 through February 7, 2025.