DAVID Y. IGE
Governor

JOSH GREENE
Lieutenant Governor

MICHAEL McCARTNEY
Director

FILE COPY

MAR - 8 2021

LAND USE COMMISSION
Department of Business, Economic Development & Tourism
State of Hawai'i

DANIEL ORODENKER
Executive Officer

SCOTT A.K. DERRICKSON, AICP
Planner

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Program Specialist

February 12, 2021

Acting Director
Office of Environmental Quality Control
235 South Beretania Street, Room 702
Honolulu, Hawai'i 96813-2437

Dear Acting Director:

Subject: Docket No. A02-737 University of the Nations Kona Inc
Environmental Impact Statement Preparation Notice (EISPN)
Proposed Campus Expansion
Tax Map Key No. (3) 7-5-010: 085 and 7-5-017:006
Wai'aha, North Kona, County and State of Hawai'i

We respectfully request the publication of the EISPN for the subject project in the next available issue of *The Environmental Notice*.

Enclosed please find the following:

1. Order determining the LUC will be the accepting authority of the EIS for the Project
2. OEQC Publication Form w/Project Summary Description;
3. Two paper copies of the EISPN; and
4. Two digital copies of the EISPN (pdf);
5. Digital copies of OEQC Publication Form and LUC Transmittal Letter (pdf); and
6. Summary of the Action (MS Word doc)

A CD-ROM with a copy of this transmittal letter, the LUC Order, EISPN, and Publication Form are enclosed for your convenience. Please feel free to contact Riley Hakoda of my office at 587-3824 should you require clarification or any further assistance.

Sincerely,

DANIEL E. ORODENKER
Executive Officer
Enclosures
cc: Derek Simon, Esq. (w/o enclosures)
Mary Alice Evans, OP (w/o enclosures)

21-124

235 SOUTH BERETANIA STREET ◆ SUITE 406 ◆ HONOLULU, HAWAI'I 96813 ◆ TEL (808) 587-3822 ◆ FAX (808) 587-3827 ◆ EMAIL: luc@dbedt.hawaii.gov
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

FEB 23 2021

LAND USE COMMISSION
STATE OF HAWAII

2021 FEB 18 A 7:23

BEFORE THE LAND USE COMMISSION

OF THE STATE OF HAWAI`I

In the Matter of the Petition of U of N BENCORP To Amend the Agricultural Land Use District to the Urban Land Use District for approximately 62 acres, Tax Map Key Nos.: (3) 7-5-10:85 and 7-5-17:06 situated at Wai`aha 1st, North Kona, Island, County and State of Hawaii.	)	DOCKET NO. A02-737 ORDER GRANTING PETITIONER'S MOTION REQUESTING THE LAND USE COMMISSION (A) TO BE THE ACCEPTING AUTHORITY FOR AN ENVIRONMENTAL IMPACT STATEMENTT; (B) DETERMINE THAT THE PROPOSED ACTION WARRANTS THE PREPARATION OF AN ENVIRONMENTAL IMPACT STATEMENT, TO BE INITIATED WITH THE PREPARATION OF AN ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE; AND CERTIFICATE OF SERVICE

ORDER GRANTING PETITIONER'S MOTION REQUESTING THE LAND USE COMMISSION (1) TO BE THE ACCEPTING AUTHORITY FOR AN ENVIRONMENTAL IMPACT STATEMENT; (2) DETERMINE THAT THE PROPOSED ACTION WARRANTS THE PREPARATION OF AN ENVIRONMENTAL IMPACT STATEMENT, TO BE INITIATED WITH THE PREPARATION OF AN ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

AND

CERTIFICATE OF SERVICE

This is to certify that this is a true and correct copy of the document on file in the office of the State Land Use Commission, Honolulu, Hawaii

2/18/2021 by

Executive Officer

LAND USE COMMISSION
STATE OF HAWAII

2021 FEB 18 A 7 23

BEFORE THE LAND USE COMMISSION

OF THE STATE OF HAWAI'I

In the Matter of the Petition of	)	DOCKET NO. A02-737
	)	
U of N BENCORP	)	ORDER GRANTING PETITIONER'S
	)	MOTION REQUESTING THE LAND
To Amend the Agricultural Land Use	)	USE COMMISSION (A) TO BE THE
District to the Urban Land Use District for	)	ACCEPTING AUTHORITY FOR AN
approximately 62 acres, Tax Map Key	)	ENVIRONMENTAL IMPACT
Nos.: (3) 7-5-10:85 and 7-5-17:06 situated	)	STATEMENTT; (B) DETERMINE THAT
at Wai`aha 1st, North Kona, Island, County	)	THE PROPOSED ACTION WARRANTS
and State of Hawaii.	)	THE PREPARATION OF AN
	)	ENVIRONMENTAL IMPACT
	)	STATEMENT, TO BE INITIATED WITH
	)	THE PREPARATION OF AN
	)	ENVIRONMENTAL IMPACT
	)	STATEMENT PREPARATION NOTICE;
		AND CERTIFICATE OF SERVICE

ORDER GRANTING PETITIONER'S MOTION REQUESTING THE LAND USE COMMISSION (1) TO BE THE ACCEPTING AUTHORITY FOR AN ENVIRONMENTAL IMPACT STATEMENT; (2) DETERMINE THAT THE PROPOSED ACTION WARRANTS THE PREPARATION OF AN ENVIRONMENTAL IMPACT STATEMENT, TO BE INITIATED WITH THE PREPARATION OF AN ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

AND

CERTIFICATE OF SERVICE

LAND USE COMMISSION
STATE OF HAWAII

2021 FEB 18 A 7:23

BEFORE THE LAND USE COMMISSION

OF THE STATE OF HAWAI`I

In the Matter of the Petition of U of N BENCORP To Amend the Agricultural Land Use District to the Urban Land Use District for approximately 62 acres, Tax Map Key Nos.: (3) 7-5-10:85 and 7-5-17:06 situated at Wai`aha 1st, North Kona, Island, County and State of Hawaii.	)	DOCKET NO. A02-737 ORDER GRANTING PETITIONER'S MOTION REQUESTING THE LAND USE COMMISSION (A) TO BE THE ACCEPTING AUTHORITY FOR AN ENVIRONMENTAL IMPACT STATEMENT; (B) DETERMINE THAT THE PROPOSED ACTION WARRANTS THE PREPARATION OF AN ENVIRONMENTAL IMPACT STATEMENT, TO BE INITIATED WITH THE PREPARATION OF AN ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

ORDER GRANTING PETITIONER'S MOTION REQUESTING THE LAND USE COMMISSION (1) TO BE THE ACCEPTING AUTHORITY FOR AN ENVIRONMENTAL IMPACT STATEMENT; (2) DETERMINE THAT THE PROPOSED ACTION WARRANTS THE PREPARATION OF AN ENVIRONMENTAL IMPACT STATEMENT, TO BE INITIATED WITH THE PREPARATION OF AN ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

On January 21, 2021, the University of the Nations Kona Inc., ("Petitioner") filed a Motion Requesting The Land Use Commission (A) To Be The Accepting Authority For An Environmental Impact Statement; (B) Determine That The Proposed Action Warrants The Preparation Of An Environmental Impact Statement, To Be Initiated With The Preparation Of An Environmental Impact Statement Preparation

Notice ("Motion"), pursuant to Hawai`i Administrative Rules ("HAR") §§15-15-70, 11-200.1-4, 11-200.1-5,11-200.1-14, and Hawai`i Revised Statutes ("HRS") §343-5(a)(1).

On March 23, 2020, Petitioner filed a Motion to Amend Findings of Fact, Conclusions of Law and Decision and Order for Land Use District Boundary Amendment dated August 8, 2003. ("Petition").

In its Motion to Amend , Petitioner proposes to revise the land use plan and development proposal for the approximately 62 acres of land ("Petition Area") in the State Land Use Urban District at Wai`aha, North Kona, County and State of Hawai`i, to allow for expansion of the existing campus in the Petition Area to accommodate its projected future growth.

Petitioner notes that before the Commission can act on the Motion to Amend, UNK must first comply with HRS Chapter 343 Hawai`i Revised Statutes.

In its Motion, Petitioner requested that the State Land Use Commission ("Commission") (A) determine that it will be the accepting authority for the environmental assessment under HRS Chapter 343; and (B) determine, through its judgement and experience, that an Environmental Impact Statement ("EIS") is warranted and that the environmental review process should be initiated by the preparation of an Environmental Impact Statement Preparation Notice ("EISPN").

On January 29, 2021, the State Office of Planning ("OP") filed a written response expressing no opposition to Petitioner's Motion.

On February 1, 2021, the County of Hawai`i Planning Department ("Planning Department") noted that it had reviewed UNK's Motion with its associated documents, including the EISPN and was in support of it.

On February 6, 2021, the Commission met via ZOOM virtual meeting platform, to determine (A) whether this Commission should be the accepting authority pursuant to HRS Chapter 343; (B) whether the proposed action may have a significant effect upon the environment to warrant the preparation of an EIS; and (3) whether to authorize Petitioner to prepare an EISPN pursuant to HRS §343-5(e). Derek Simon, Esq., appeared on behalf of Petitioner. Diana Mellon-Lacey, Esq., Zendo Kern, Maija Jackson and Jeff Darrow appeared on behalf of the Planning Department. Bryan Yee, Esq., and Rodney Funakoshi were present on behalf of OP.

At the meeting, Petitioner summarized its position in support of its Motion that this Commission is the appropriate accepting authority for the EIS pursuant to HRS Chapter 343, that the proposed action may have a significant effect upon the environment such that an EIS is likely to be required, and that Petitioner be allowed to proceed directly to the preparation of an EIS commencing with the preparation of an EISPN.

Both OP and the Planning Department stated that they had no objections to Petitioner's Motion.

Following discussion, a motion was made and seconded to have this Commission (A) agree to be the accepting authority pursuant to HRS chapter 343; (B) find that the proposed action may have a significant effect upon the environment to warrant the preparation of an EIS and authorized Petitioner to prepare an EISPN pursuant to HRS §343-5(e). The Commission also authorized the Commission's Executive Officer to notify and submit a record of the Commission's decision to Petitioner and the State Office of Environmental Quality Control ("OEQC"), and to sign the Order on this matter on behalf of the Commission. There being a vote tally of 8 ayes and 0 nays the motion carried.

ORDER

This Commission, having duly considered Petitioner's Motion, the comments of OP and the Planning Department, and a motion having been made at its meeting on February 6, 2021, via ZOOM virtual interactive conference platform, and the motion having received the affirmative votes required by HAR §15-15-13, and there being good cause for the motion,

HEREBY ORDERS (A) that it agrees to be the accepting authority pursuant to HRS Chapter 343; (B) that the proposed action may have a significant effect upon the environment to warrant the preparation of an EIS; and that Petitioner is authorized to prepare an EISPN pursuant to HRS §343-5(e).

IT IS ALSO ORDERED that Petitioner shall make the EISPN available for a 30-day public review and comment period pursuant to HRS §343-5(e) and HAR §11-200.1-4.

IT IS FURTHER ORDERED that the Commission's Executive Officer shall notify and submit a record of the Commission's decision to Petitioner and the OEQC, and shall sign the Order on this matter on behalf of the Commission.

ADOPTION OF ORDER

This ORDER shall take effect upon the date this ORDER is certified by this Commission.

Done at Honolulu, Hawai`i, this 18th, day of February, per motion on February 6, 2021.

LAND USE COMMISSION
STATE OF HAWAI`I

APPROVED AS TO FORM

Deputy Attorney General

By_____
DANIEL ORODENKER
Executive Officer

Filed and effective on:

2/18/2021

Certified by:

DANIEL ORODENKER
Executive Officer

BEFORE THE LAND USE COMMISSION

OF THE STATE OF HAWAI'I

In the matter of the Motion of U of N BENCORP To Amend the Agricultural Land Use District to the Urban Land Use District for approximately 62 acres, Tax Map Key Nos.: (3) 7-5-010: 085 and 7-5-017: 006 situated at Wai`aha 1st, North Kona, County and State of Hawai`i	)))))))))	DOCKET NO. A02-737 CERTIFICATE OF SERVICE

CERTIFICATE OF SERVICE

I hereby certify that a certified copy of the ORDER GRANTING PETITIONER'S MOTION REQUESTING THE LAND USE COMMISSION (1) TO BE THE ACCEPTING AUTHORITY FOR AN ENVIRONMENTAL IMPACT STATEMENT; (2) DETERMINE THAT THE PROPOSED ACTION WARRANTS THE PREPARATION OF AN ENVIRONMENTAL IMPACT STATEMENT, TO BE INITIATED WITH THE PREPARATION OF AN ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE was served upon the following by depositing the same in the U. S. Postal Service by registered or certified mail as noted:

DEL. MARY ALICE EVANS, Director
Office of Planning
P. O. Box 2359
Honolulu, Hawai'i 96804-2359

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Attorney for State Office of Planning

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UNIVERSITY OF THE
NATIONS, KONA, INC.

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Hilo Lagoon Center
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DEREK B. SIMON 10612
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1001 Bishop Street
Honolulu, HI 96813
Co-Counsel for
UNIVERSITY OF THE
NATIONS, KONA, INC.

Dated: Honolulu, Hawai'i, February 18, 2021

DANIEL E. ORODENKER
Executive Officer

From: webmaster@hawaii.gov
To: HI Office of Environmental Quality Control
Subject: New online submission for The Environmental Notice
Date: Tuesday, March 2, 2021 4:00:16 PM

Action Name

University of the Nations, Kona, Inc. 2020 Master Plan Update

Type of Document/Determination

Environmental impact statement preparation notice (EISPN)

HRS §343-5(a) Trigger(s)

- (1) Propose the use of state or county lands or the use of state or county funds

Judicial district

South Kona, Hawai‘i

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

(3) 7-5-010:085 and (3) 7-5-017:006

Action type

Applicant

Other required permits and approvals

State Land Use District Boundary Amendment - Motion to Amend; Project District Zoning Change; Chapter 6E HRS Compliance Historic Resources; Grading, Grubbing, Trenching and Stockpiling Permits; Building Permits (Demolition, Buildings, Electrical, Plumbing)

Discretionary consent required

Use of County Land

Approving agency

State of Hawai‘i, Land Use Commission

Agency contact name

Riley Hakoda

Agency contact email (for info about the action)

riley.k.hakoda@hawaii.gov

Email address or URL for receiving comments

UofNkona@g70.design

Agency contact phone

(808) 587-3824

Agency address

P.O. Box 2359
Honolulu, HI 96804
United States

Map It

Public Scoping Meeting information

Thursday March 25, 2021/6:00-8:00PM Zoom: https://g70design.zoom.us/j/98510032177?pwd=a29OY3Ewek1DUThZL1dSVDFnOCtLZz09

Accepting authority

State of Hawai‘i, Land Use Commission

Applicant

University of the Nations, Kona, Inc.

Applicant contact name

Paul Childers

Applicant contact email

campusdirector@uofnkona.edu

Applicant contact phone

(808) 756-1299

Applicant address

75-5851 Kuakini Highway #248
Kailua-Kona, HI 96740
United States
Map It

Was this submittal prepared by a consultant?

Yes

Consultant

G70

Consultant contact name

Jeffrey Overton

Consultant contact email

jeff@g70.design

Consultant contact phone

(808) 441-2104

Consultant address

111 S. King Street, Suite 170
Honolulu, HI 96825
United States
Map It

Action summary

The Proposed Action is the University of the Nations, Kona, Inc.’s proposed expansion of its existing campus, located in Kailua-Kona on the Island of Hawai‘i, onto two neighboring parcels, identified by Tax Map Keys: (3) 7-5-010:085 and 7-5-017:006, that were reclassified to the State Land Use Urban District

by the State of Hawai‘i Land Use Commission in Docket No. A02-737. Fully developed, the Proposed Action will include student housing, academic instruction buildings, student center, lower school, athletic facilities, chapel, maintenance and storage facilities, and support infrastructure which includes expansion of the existing "spine road", a secondary access point off Kuakini Highway, and necessary roadway improvements. The Proposed Action will require the Applicant to file a motion with the LUC to amend its Findings of Fact, Conclusions of Law, and Decision and Order for a Land Use District Boundary Amendment, dated August 8, 2003, and Change of Zone.

Attached documents (signed agency letter & EA/EIS)

- UNK_EISPN_20210216.pdf
- OEQC-LETTER-A02-737-EISPN-signed.pdf

Action location map

- project_parcels.zip

Authorized individual

Jeffrey Overton

Authorization

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

UNIVERSITY OF THE NATIONS, KONA, INC.
2020 MASTER PLAN UPDATE

ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

APPLICANT:

University of the Nations, Kona, Inc.
75-5851 Kuakini Highway
Kailua-Kona, HI 96740

PREPARED BY:

G70

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

FEBRUARY 2021

UNIVERSITY OF THE NATIONS, KONA, INC. 2020 MASTER PLAN UPDATE

Kailua-Kona, Island of Hawai‘i, Hawai‘i

TMK (3) 7-5-010:085 and (3) 7-5-017:006

ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

APPLICANT:

University of the Nations, Kona, Inc.
75-5851 Kuakini Highway
Kailua-Kona, HI 96740

PREPARED BY:

G70

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.

FEBRUARY 2021

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List of Acronyms

AA	Archaeological Assessment
AIS	Archaeological Inventory Survey
ALISH	Agricultural Lands of Importance to the State of Hawai‘i
ASM	ASM Affiliates, Incorporated
ASYA	Aquifer System Area
BMPs	Best Management Practices
CAB	Clean Air Branch
CDP	Census Designated Place
CO	Carbon Monoxide
CIA	Cultural Impact Assessment
CZMP	Coastal Zone Management Program, State of Hawai‘i
DBEDT	Department of Business, Economic Development and Tourism, State of Hawai‘i
DLNR	Department of Land and Natural Resources, State of Hawai‘i
DOE	Department of Education, State of Hawai‘i
DOFAW	Department of Forestry and Wildlife, State of Hawai‘i
DOH	Department of Health, State of Hawai‘i
DPW	Department of Public Works, County of Hawai‘i
DWS	Department of Water Supply, County of Hawai‘i
EIS	Environmental Impact Statement
EISPN	Environmental Impact Statement Preparation Notice
EMS	Emergency Medical Services
EPA	U.S. Environmental Protection Agency
EPR	Environmental Planning Report
FEMA	Federal Emergency Management Area
FTE	Full-Time Equivalent
GPD	Gallons per Day
HAR	Hawai‘i Administrative Rules
HCFD	Hawai‘i County Fire Department
HDOT	Hawai‘i Department of Transportation, State of Hawai‘i
HE	Hawaiian Electric
HEPA	Hawai‘i’s Environmental Protection Act
HIBC	Hawai‘i Island Burial Council
HRS	Hawai‘i Revised Statutes
HTCO	Hawaiian Tel
HWUDP	Hawai‘i County Water Use and Development Plan
H_2S	Hydrogen Sulfide
IBC	International Building Code
KS	Kamehameha Schools
Kv	Kilovolt
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Development
LOS	Level of Service
LSB	Land Study Bureau, University of Hawai‘i
LUC	Land Use Commission, State of Hawai‘i
LUPAG	Land Use Pattern Allocation Guide
MAR	Mobility Analysis Report
MGD	Million Gallons per Day

MPH	Miles per Hour
NAAQS	National Ambient Air Quality Standards
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	National Resource Conservation Sciences
NRHP	National Register of Historic Places
NOX	Nitrogen Oxides
OEQC	Office of Environmental Quality Control, State of Hawai‘i
OHA	Office of Hawaiian Affairs, State of Hawai‘i
OP	Office of Planning, State of Hawai‘i
O3	Ozone
Pb	Lead
PM2.5	Particulate Matter Smaller than 2.5 Microns
PM10	Particulate Matter Smaller than 10 Microns
Petition Area	62-acres of Land Purchased by University of the Nations, Kona, Inc.
PUC	Public Utility Commission, State
SDWB	Safe Drinking Water Branch, State Department of Health
SMA	Special Management Area
SKR	South Kohala Resort
SAAQS	State Ambient Air Quality Standards
SHPD	State Historic Preservation District
SIHP	State Inventory of Historic Places
SLU	State Land Use District Boundary Amendment
Sox	Sulfur Oxides
So2	Sulfur Dioxide
TMK	Tax Map Key
TOD	Transit Oriented Development
TPD	Tons per Day
T&C	Traditional and Customary Native Hawaiian Rights
U of N Bencorp	University of the Nations, Bencorp, Inc.
U of N Kona	University of the Nations, Kona, Inc.
UNK Update	University of the Nations, Kona 2020 Master Plan Update
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Services
USGS	United States Geological Survey
V	Volt
WWTP	Wastewater Treatment Plant

1.0 Introduction

This Environmental Impact Statement Preparation Notice (EISPN) was prepared in accordance with the requirements of Hawai‘i Revised Statutes, Chapter 343 and Hawai‘i Administrative Rules, Chapter 11-200.1 in support of a Motion to Amend the Findings of Fact, Conclusions of Law, and Decision and Order for a State Land Use District Boundary Amendment filed in the State of Hawai‘i Land Use Commission (LUC) Docket No. A02-737 in order to revise the land use plan and development proposal for approximately 62 acres of land in Kailua-Kona, North Kona District, County and Island of Hawai‘i. This environmental review is required due to the project’s proposed use of County of Hawai‘i lands associated with infrastructure improvements within public roadways.

1.1 Project Information Summary

Name of Action:	University of the Nations, Kona, Inc. 2020 Master Plan Update
Applicant/Landowner:	University of the Nations, Kona, Inc. 75-5851 Kuakini Highway Kailua-Kona, HI 96740
Accepting Authority:	Hawai‘i State Land Use Commission P.O. Box 2359 Honolulu, HI 96813
Prepared By:	G70 111 S. King St., Suite 170 Honolulu, HI 96813 Contact: Jeff Overton, Principal Phone: (808) 523-5866
Project Location:	University of the Nations, Kona, Inc. 75-5943 & 75-5911 Kuakini Highway Kailua-Kona, HI 96740
Tax Map Keys (TMK):	(3) 7-5-010:085 and (3) 7-5-017:006
Project Area:	62-acres
State Land Use District:	Urban (Reclassified from Agricultural to Urban in 2003)
County of Hawai‘i Zoning:	TMK (3) 7-5-010:085, A-1a, Agricultural District TMK (3) 7-5-017:006, RD-3.75 and RS-7.5, Residential District
County of Hawai‘i General Plan:	Medium Density Urban Development
Special Management Area:	Not Within SMA
Flood Zone:	Zone X (Outside 500-year Floodplain)
EISPN Triggers:	Use of County Lands, Utility and Infrastructure Improvements

1.2 Project Background

University of the Nations, Kona, Inc. (U of N Kona), a Hawai‘i 501(c)(3) non-profit corporation and mission-based educational institution, was founded in 1978 at its present campus (Existing Campus Site) in Kailua-Kona on the Island of Hawai‘i. U of N Kona serves as a training center to prepare followers for Christian service throughout the world, with an emphasis in Asia and the Pacific. Unique in the field of higher education, this non-traditional, globally networked learning center offers learning opportunities for emerging Christian leaders with branches in 1,200 locations with programs in over 100 languages around the world.

In 2003, U of N Kona was granted a State Land Use (SLU) District Boundary Amendment in LUC Docket No. A02-737 to reclassify approximately 62 acres of land in Kailua-Kona, North Kona District, County and Island of Hawai‘i, from the SLU Agricultural District to the SLU Urban District (Petition Area). U of N Kona has filed a Motion to Amend the Findings of Fact, Conclusions of Law, and Decision and Order for a State Land Use District Boundary Amendment filed on August 8, 2003 (Motion to Amend). The Motion to Amend was filed to revise the land use plan and development proposal for the Petition Area described herein and defined as U of N Kona's 2020 Master Plan Update (UNK Update).

The UNK Update provides for the expansion of the existing campus over approximately 30 years, in three (3) phases of development to accommodate the U of N Kona’s projected future growth. Fully developed, the proposed expansion of the campus would generally include a K-12 school with supporting facilities, additional instructional buildings for the existing Discipleship Learning Center, student dormitories, a chapel, a student resource center, a discovery center for research and documentation, a café with outdoor dining space, an athletic training complex, a youth camp, an agricultural exhibit, and supportive facilities. The proposed UNK Update reflects current and upcoming priorities, outlines the expansion of the existing campus onto the Petition Area, and builds on planning principles and concepts based on the mission’s faith-based system.

1.3 Project Location

The Petition Area is located on the west coast of the Island of Hawai‘i, approximately one mile southeast of the town center of Kailua-Kona, in the North Kona District (*Figure 1-1*). The Petition Area is within the traditional moku of Kona and ahupua‘a of Wai‘aha 1st on the lower western slopes of Mount Hualālai. The Petition Area is approximately 62 acres in size and presently identified by Tax Map Key Nos.: (3) 7-5-010:085 and 7-5-017:006 (*Figure 1-2*).

The Petition Area is bordered by Kuakini Highway on the west, Queen Ka‘ahumanu Highway and Hualālai Road on the east, U of N Kona’s Existing Campus Site to the north, and the Kona Hillcrest subdivision on the south. The Petition Area is generally gently sloped at an elevation ranging from approximately 100 to 360 feet, rising in elevation from approximately 100 feet at Kuakini Highway to 360 feet with steeper slopes on the upper mauka side just below Hualālai Road. The parcels in the vicinity of the Petition Area are classified in the SLU Urban District.

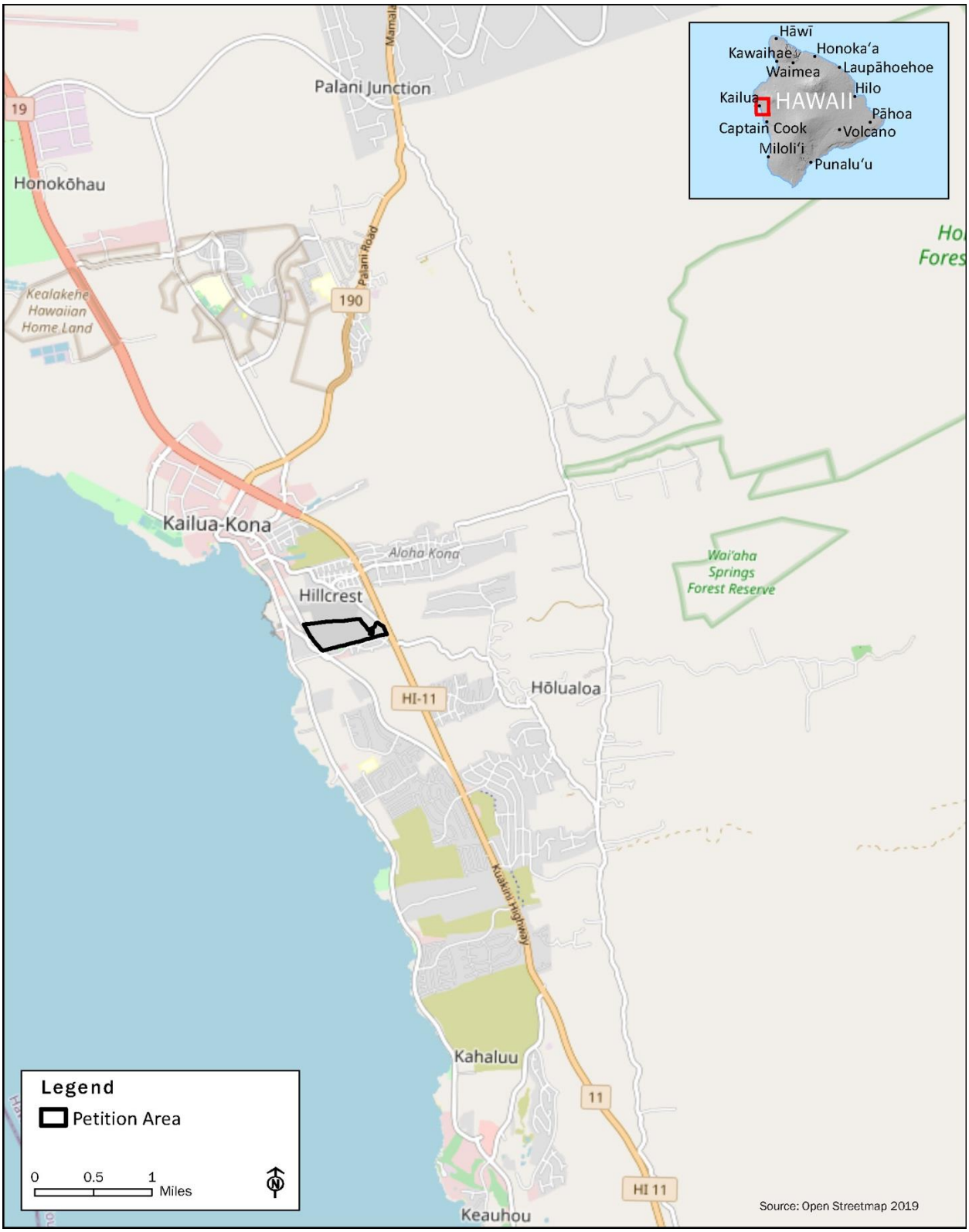

Figure 1-1: Project Location Map

University of the Nations, Kona, Inc. 2020 Master Plan Update

Figure 1-2: TMK Parcel Map

University of the Nations, Kona, Inc. 2020 Master Plan Update

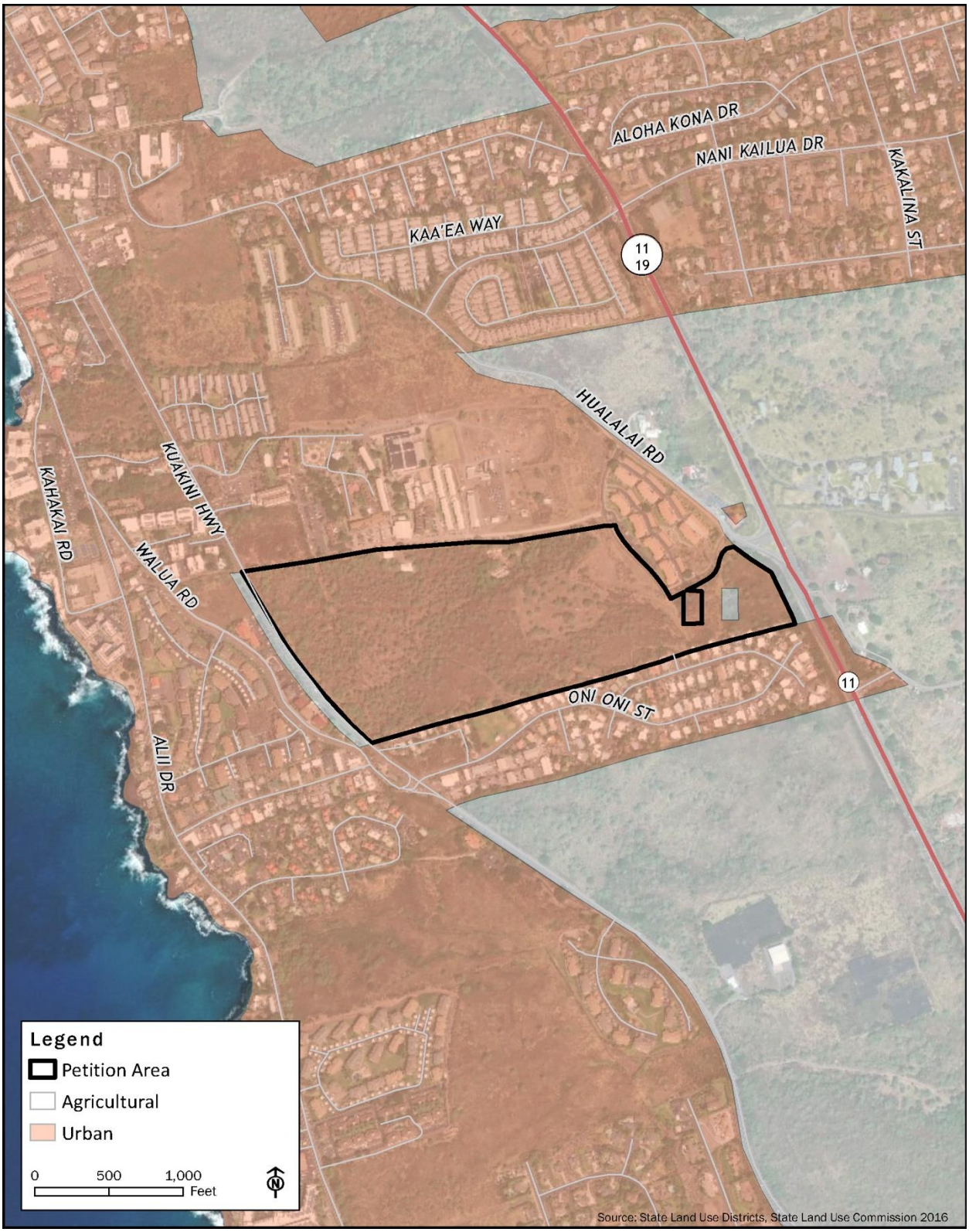

Figure 1-3: State Land Use District Designation Map

University of the Nations, Kona, Inc. 2020 Master Plan Update

Figure 1-4: County of Hawai'i Zoning Map

University of the Nations, Kona, Inc. 2020 Master Plan Update

2.0 Project Description

2.1 Proposed Action

The UNK Update builds on planning principles and concepts based on the U of N Kona's faith-based value system. Its purpose is to update the plan for the 62-acre Petition Area to reflect current and upcoming priorities and to outline the expansion of the Existing Campus Site. Future buildings and projects are projected over a 30-year planning program, in three (3) phases with 5-10-years allocated for each development phase (*Table 2-1*).

Table 2-1: Planning Program, UNK Update	
Phase 1: 5-10 Years	Planning program projects anticipated for development with the next 5-10 years.
Phase 2: Beyond 10 Years	Planning program projects anticipated for development beyond the 10-year period.
Phase 3: Beyond 20 Years	Planning program projects anticipated for development beyond the 20-year period.

The UNK Update sets current and upcoming mission-based learning priorities, including a physical vision of the campus and an expanded organizational schematic program that defines future uses of the site. The UNK Update separates the Petition Area into six distinct geographic areas: a discovery center, K-12 school, the Discipleship Learning Center, an athletic complex, an agricultural exhibit, and a storage and maintenance yard (*Figure 2-2*). The UNK Update illustrates the design considerations for projects within these areas. In addition, the UNK Update identifies key features to create an integrated campus community, such as entrances and arrival areas, a central gathering space at the chapel, outdoor courtyards and pathways, buildings, landscaping, preservation of archaeological sites, and sustainability and design guidelines to define the overall relationship of the Petition Area. Refer to *Figures 2-2a through 2-2d* and *Tables 2-2a through 2-2d* for lists of the proposed improvements.

Infrastructure improvements include expansion of the existing on-site center road (Spine Road) that bisects the Existing Campus and Petition Area, the addition of a secondary access point off of Kuakini Highway and necessary roadway improvements, and other upgrades to the existing utilities. All building projects will be designed and constructed to meet applicable codes and ordinance rules and regulations governing the construction of facilities. The necessary permits and approvals will be secured prior to the commencement of construction.

As a part of the entitlement process, in addition to the Motion to Amend, a change in zoning will need to be processed with the County to facilitate the UNK Update on the Petition Area. The Petition Area is currently zoned A-1a, Agricultural District and a portion of the Petition Area is split zoned RD-3.75 and RS-7.5, Residential District (*Figure 1-4*). A change in zoning application with the County would be required for approval from A-1a to RM-4 (Multiple-Family Residential) or possibly RCX (Residential–Commercial Mixed Use) or CV (Village Commercial) prior to plan approval(s) and issuance of building permits. U of N Kona is also considering establishing Project District zoning for the project, which would provide flexibility in relocating elements within the Project District.

2.2 Purpose and Need for the Proposed Action

The UNK Update addresses current and projected space and activity needs for U of N Kona. Enrollment is projected to increase over the next planning period, as indicated by U of N Kona. The proposed development is intended to expand the learning and training centers to support U of N Kona's mission.

Current enrollment is approximately 840 students per quarter. In addition to student enrollment, the number of full-time equivalent (FTE) staff is approximately 252. Currently, 90% of the students live on the site, totaling an estimated 756 student and 101 FTE staff residents. The de facto daytime population of the Existing Campus Site is about 1,092.

In the next 5-10 years, enrollment is projected to increase to 1,500 students. In addition to student enrollment, FTE staff numbers are projected to increase to approximately 450. An estimated 70% of the students are expected to live on the site, for a total of approximately 1,050 student residents over the Phase 1 Planning Program. In addition, an estimated 40% of the FTE staff are expected to live on the site, for a total of approximately 180 FTE staff residents over the Phase 1 Planning Program. The total residents for the Phase 1 Planning Program is projected to be 1,230 and the de facto daytime population is projected to be about 1,950 for the Existing Campus Site and the Petition Area. The Phase 1 Planning Program estimates the daytime population for the Petition Area only to be 630 of the total daytime population for the entire campus and approximately 200 of the total residents are expected to live on the Petition Area.

For Phase 2, enrollment is projected to increase the student population to approximately 2,250 students. In addition to student enrollment, the FTE staff numbers are projected to increase to approximately 675. A little more than 80% of the students are expected to live on the site, for a total of approximately 1,875 student residents over the Phase 2 Planning Program. In addition, an estimated 35% of the FTE staff are expected to live on site, for a total of approximately 236 FTE staff residents over the Phase 2 Planning Program. The total residents for the Phase 2 Planning Program is projected to be 2,111 and the de facto daytime population is projected to be about 2,925 for the Existing Campus Site and the Petition Area. The Phase 2 Planning Program estimates the daytime population for the Petition Area to be 1,095 of the total daytime population and approximately 1,100 of the total residents are expected to live on the Petition Area.

For Phase 3, enrollment is projected to increase the student population to approximately 3,000 students. In addition to student enrollment, FTE staff numbers are projected to increase to approximately 900. A little more than 80% of the students are expected to live on the site, for a total of approximately 2,500 student residents over the Phase 3 Planning Program. In addition, an estimated 30% of the FTE staff are expected to live on site, for a total of approximately 270 FTE staff residents over the Phase 3 Planning Program. The total residents for the Phase 3 Planning Program is projected to be 2,770 and the de facto daytime population is projected to be about 3,900 for the Existing Campus Site and the Petition Area. The Phase 3 Planning Program estimates the daytime population for the Petition Area to be 1,940 of the total daytime population and approximately 1,400 of the total residents are expected to live on the Petition Area. Only approximately 1,130 of these students and staff will be commuting, and the remaining students and staff will be accommodated to live on-site with the proposed student dormitories and faculty housing.

U of N Kona has been successful in establishing and growing its existing programs, such that the expansion of the campus onto the 62-acre Petition Area and proposed facilities and projects are necessary to support the growth of U of N Kona.

2.3 U of N Kona 2020 Master Plan Update Vision

Located within the ahupuaʻa of Waiʻaha 1st on the lower western slopes of Mount Hualālai within the traditional moku of Kona, U of N Kona serves as a premier globally networked learning center to prepare followers for Christian service throughout the world. Waiʻaha – which means "gathering water" in Hawaiian – reflects the ideas, hopes and dreams of what U of N Kona's founders and representatives envisioned during the planning and design phases of the UNK Update. U of N Kona is envisioned as a place for coming together or "gathering" to broaden the scope of evangelistic endeavors and prepare followers for Christian service with spiritual, cultural, intellectual, and professional training.

The UNK Update is envisioned as a sustainable campus environment that provides a mission-based setting for its faculty and student population that incorporates the unique historical and cultural legacy specific to the Petition Area, Waiʻaha Ahupuaʻa and the greater Kona Region. Preservation and restoration of significant cultural resources within the Petition Area are highlighted and interpreted as focal features in the design. A historical walk is planned, connecting the idea of "gathering water" to a landscape feature envisioned as a dry-stream bed. The proposed dry-stream bed is planned to begin at the Existing Campus Site, meander through the site and connect to the principal gathering area proposed for the Petition Area, the Chapel. The central gathering area at the Chapel is envisioned as the "Piko" of the campus. The design of the Chapel is encircled by a stepped water feature and complemented with a natural, terraced seating area for gathering, featuring views of the campus and Kona Coast.

The UNK Update prioritizes historical restoration of identified cultural sites at the Petition Area. The planned restoration includes installation of rock walls along permanent preservation easement buffers at each of the cultural sites, connecting pathways, and preservation of access and trails. To feature the historical significance of the sites, traditional Hawaiian Hale structures are designed to complement the historical restoration and interpretation of the cultural sites. Overall, the UNK Update incorporates guiding cultural principles in the physical design of the facilities and the surrounding landscape in the selection of appropriate plantings and exterior features.

The UNK Update includes guidelines to address building design, as well as guidelines for sustainability and landscape design. Strategically, the architectural design amends to the natural terrain of the topography, incorporating a natural integration with the Petition Area. A unified architectural theme is established to ensure that the buildings are scaled to reflect a distinct sense of place of the Kona Region.

Proposed buildings will be designed to be flexible and accommodate diverse space needs, creating an environment that comfortably supports innovative teaching, learning opportunities, and gathering venues. The UNK Update incorporates green building design using water saving features and energy saving features, such as photovoltaic panels and green roofs. In addition, the proposed landscaping integrates Hawaiian culture through the use of native plants and landscaping elements that are representative of the natural and cultural landscape. The landscape design will incorporate xeriscape techniques aimed at creating sustainable landscape that complements the dry climate, pays tribute to the region's agricultural past, and incorporates planting of native vegetation.

Much of the proposed design for the Petition Area reflects and capitalizes upon the beauty of the surrounding Kona Region. The spaces between buildings are envisioned as either "outdoor rooms" functioning in concert with indoor spaces as venues for learning, gathering, recreation, or as outdoor corridors. Outdoor open spaces or "outdoor rooms" linked through a pedestrian network is envisioned to create outdoor learning environments that promote interaction between students and faculty. The UNK Update strives to embrace all elements of sustainability, and its architecture, open space, and landscape will work together to foster a Hawaiian sense of place that is also reflective of the Kona region, both its natural attributes and its cultural history.

Figure 2-1: Conceptual Rendering (G70, 2020)

University of the Nations, Kona, Inc. 2020 Master Plan Update

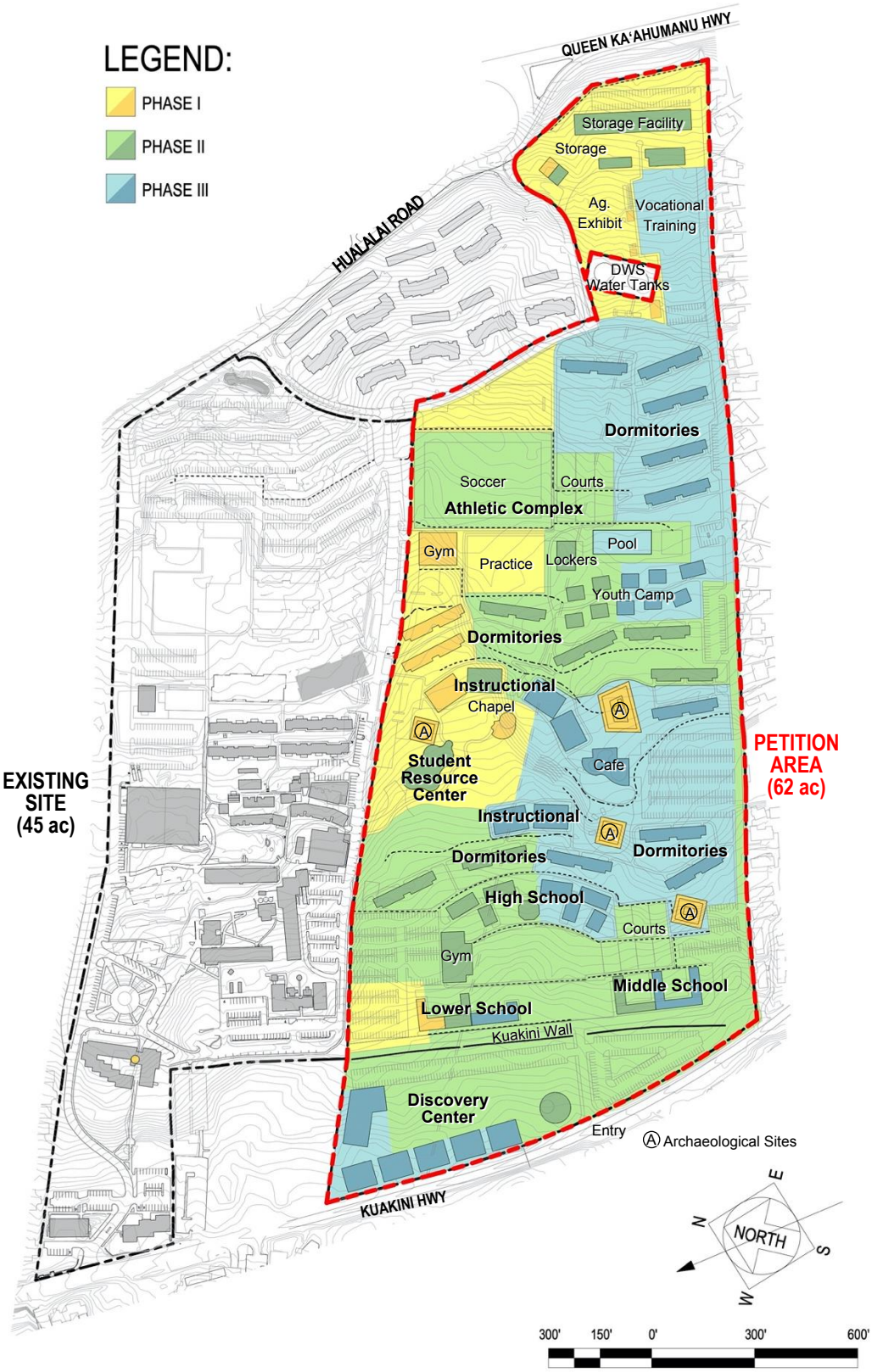

Figure 2-2: Conceptual Master Plan (G70, 2020)

University of the Nations, Kona, Inc. 2020 Master Plan Update

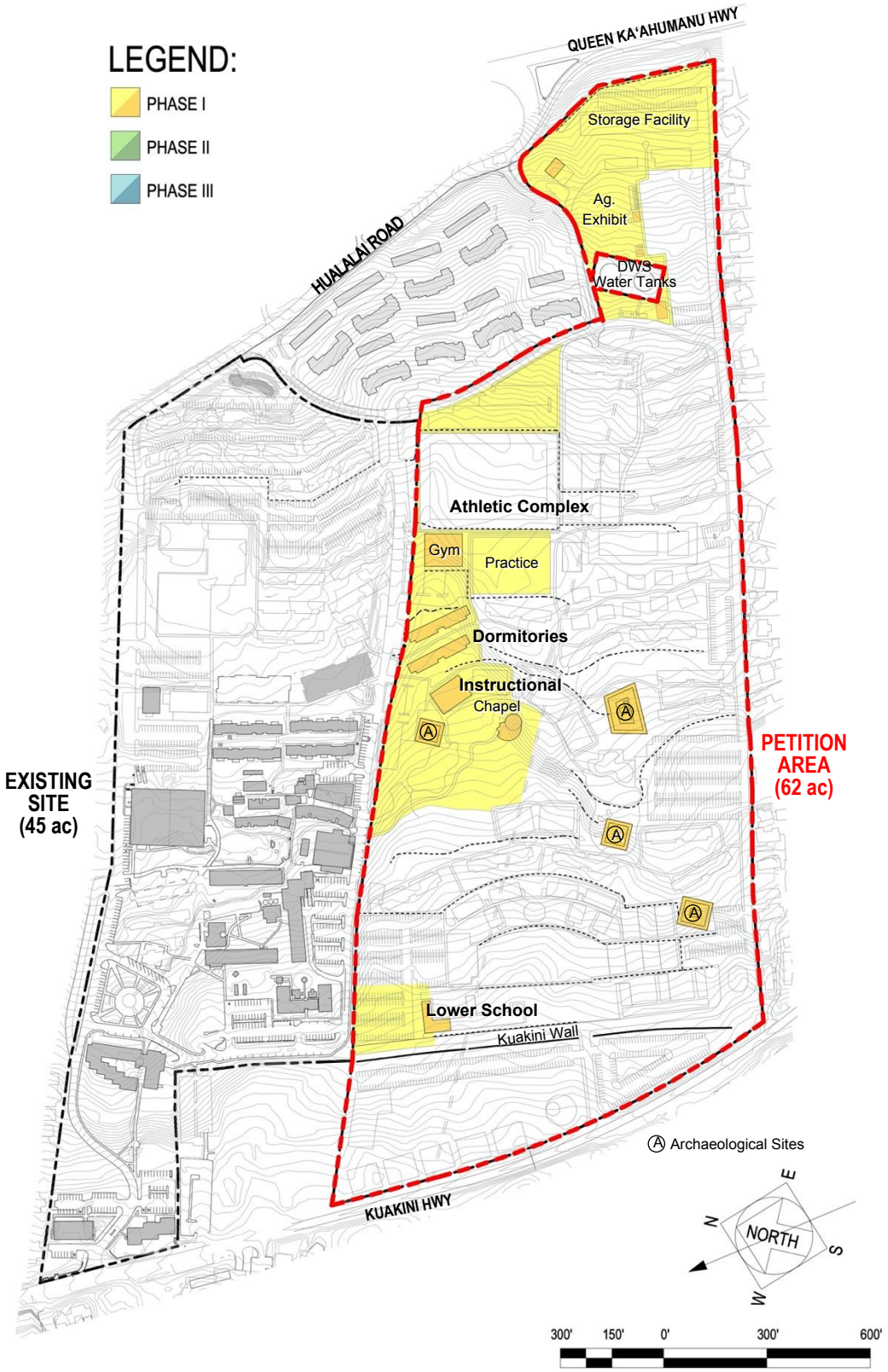

Figure 2-2a: Phase 1 - Proposed Projects for Petition Area

Table 2-2a: Phase 1 - Proposed Projects for Petition Area		
Petition Area Proposed Projects Phase 1 – Within 5-10 Years	Foot Print (SqFt)	Acreage
Discipleship Learning Center		
Chapel	4,010	0.1
Instruction Building	7,000	0.2
Student Resident Dormitory Buildings (2)	14,000	0.3
Athletic/Training Complex		
Gymnasium/Locker Rooms	10,450	0.2
Lower School		
Instruction Building	3,420	0.1
Agricultural Exhibit		
Instruction Building	1,500	0.03
Maintenance/Storage Facilities		
Maintenance Shops/Storage Warehouse	1,700	0.04
SUBTOTAL BUILDING FOOTPRINT AREA	42,080	1.0
Roadway Connections to Existing Campus Site & Access Points	3,000	0.1
ADA Compliant Pathways	21,040	0.5
SUBTOTAL ROADWAY & PATHWAY AREA	24,040	0.6
Parking Area for Instruction & Dormitory Buildings	31,000	0.7
Parking Area for Gymnasium & Practice Field	25,000	0.6
Parking Area for Athletic/Training Complex	33,500	0.8
Parking/Drop-off Area for Lower School	27,300	0.6
Parking & Delivery/Loading Area for Storage Facilities	33,200	0.8
SUBTOTAL PARKING AREA	150,000	3.4
Athletic/Training Complex Practice Field	37,150	0.9
Agricultural Exhibit Garden & Food Forest	61,500	1.4
Archaeological Preservation Sites	25,300	0.6
Lawn Areas and Landscaping	180,800	4.2
SUBTOTAL OPEN SPACE/PERVIOUS AREA	304,750	7.1
TOTAL PHASE 1 AREA	520,870	12

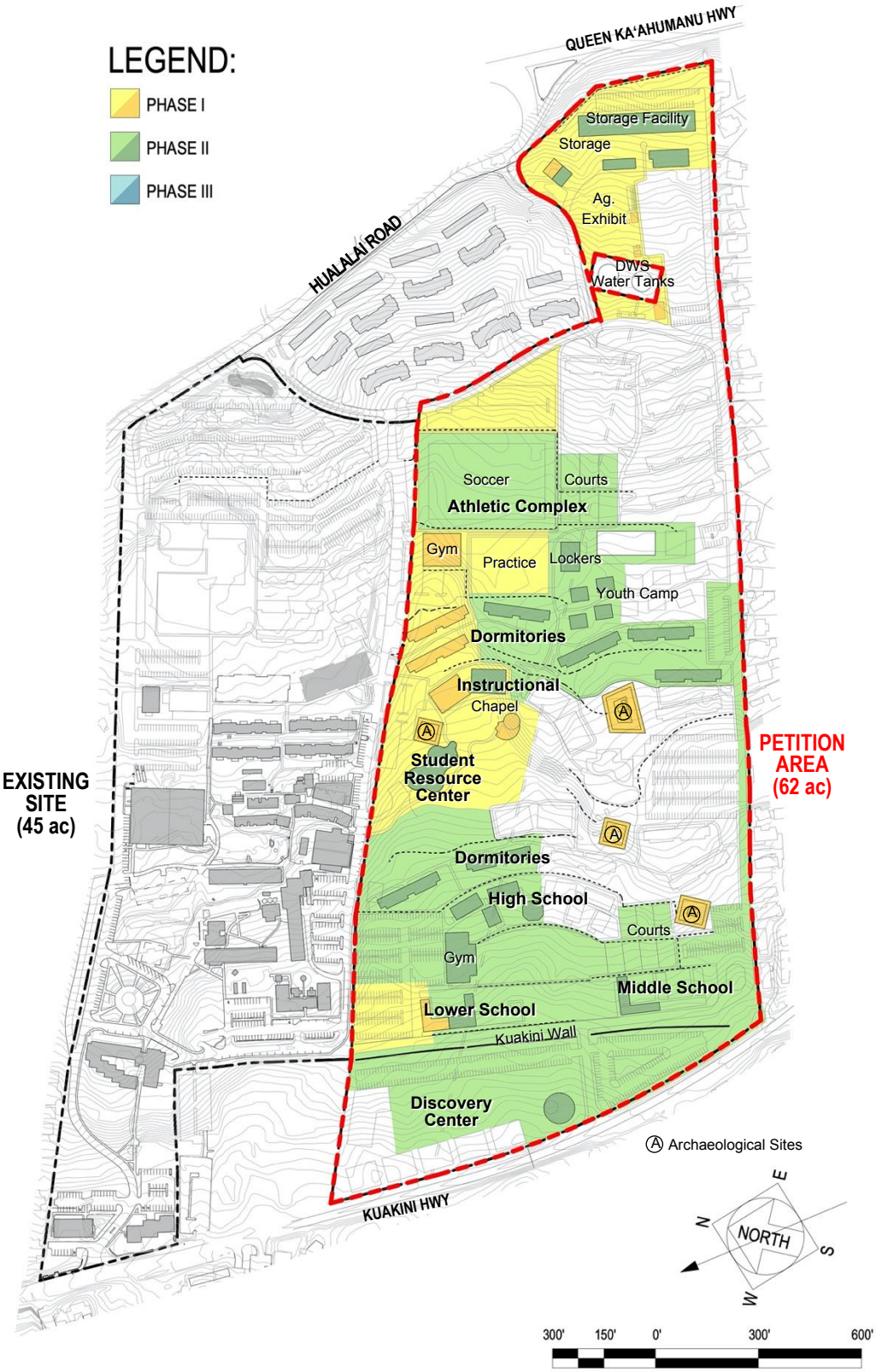

Figure 2-2b: Phase 2 - Proposed Projects for Petition Area

Table 2-2b: Phase 2 - Proposed Projects for Petition Area		
Petition Area Proposed Projects Phase 2 – Beyond 10 Years	Foot Print (SqFt)	Acreage
Discipleship Learning Center		
Student Resource Center	12,300	0.3
Instruction Building	7,000	0.2
Student Resident Dormitory Buildings (6)	42,000	1.0
Athletic/Training Complex		
Athletic Courts	33,000	0.8
Athletic Building and Locker Rooms	4,675	0.1
Aquatic Center: Warm-up Pool	4,200	0.1
Discover Center		
Entry Exhibit Building	6,360	0.1
Lower School		
Instruction Buildings	4,300	0.1
Middle School		
Instruction Buildings	5,400	0.1
Athletic Courts	19,175	0.4
High School		
Instruction Buildings & Gymnasium/Cafetorium	24,125	0.6
Athletic Courts	14,120	0.3
Youth Camp		
Cabins	8,000	0.2
Maintenance/Storage Facilities		
Maintenance Shop/Storage Warehouses	4,650	0.1
Garage/Storage Warehouse	5,500	0.1
Food & Supply Storage Warehouse	20,400	0.5
SUBTOTAL BUILDING FOOTPRINT AREA	215,230	5
Roadways and Pathways	144,240	3.3
SUBTOTAL ROADWAY & PATHWAY AREA	144,240	3.3
Parking Area for Instruction and Dormitory Buildings	29,900	0.7
Parking Area for Discovery Center	77,510	1.8
Parking/Drop-off Area for Middle School	30,065	0.7
Parking/Drop-off Area for High School	30,070	0.7
Parking & Delivery/Loading Area for Storage Facilities	35,340	0.8
SUBTOTAL PARKING AREA	202,885	4.7
Athletic/Soccer Field	111,720	2.6
Fields/Playground for Lower, Middle & High School	103,400	2.4
Lawn Areas and Landscaping	466,750	10.7
SUBTOTAL OPEN SPACE/PERVIOUS AREA	681,870	15.7
TOTAL PHASE 2 AREA	1,244,225	29

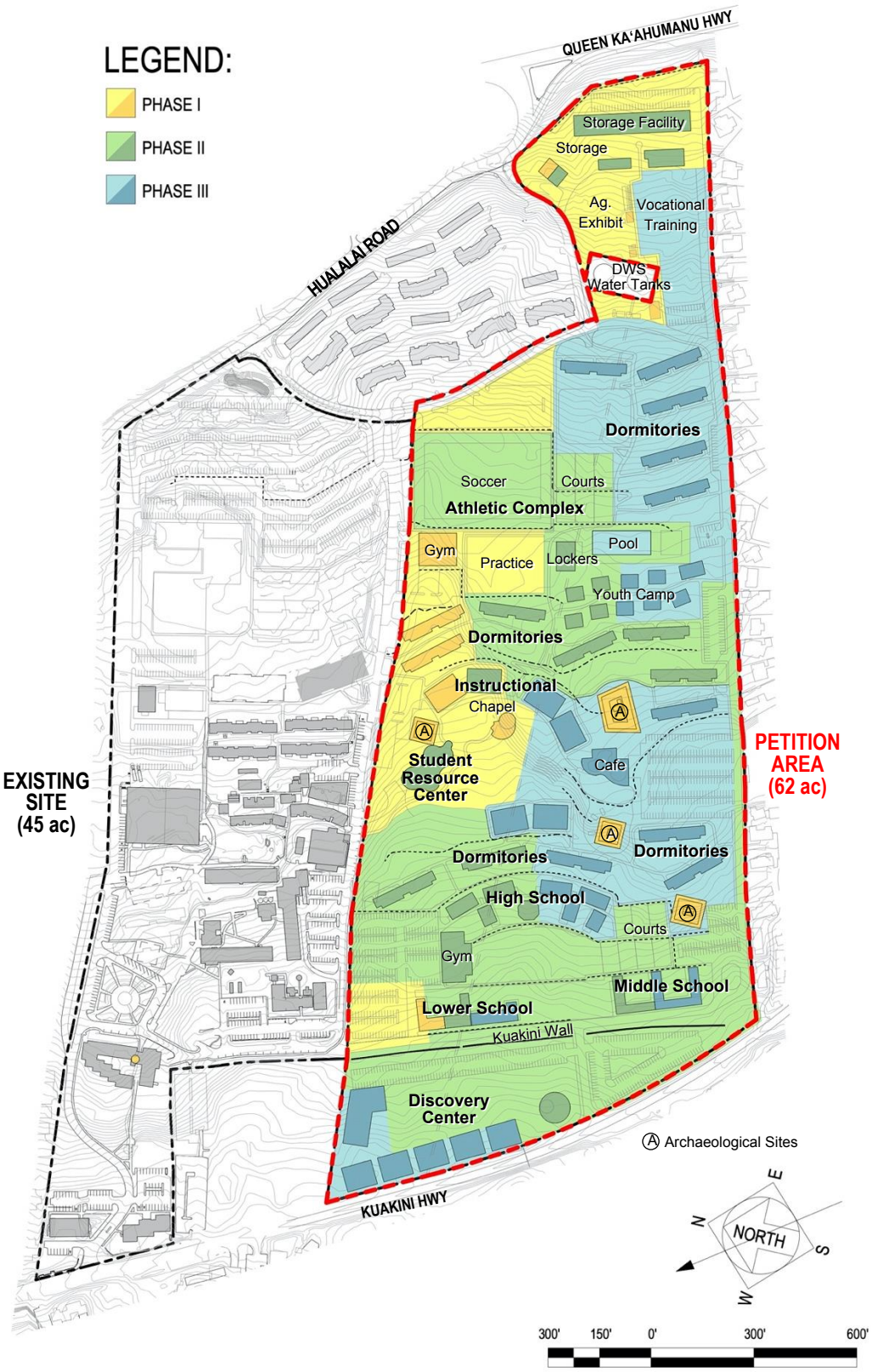

Figure 2-2c: Phase 3 - Proposed Projects for Petition Area

Table 2-2c: Phase 3 - Proposed Projects for Petition Area		
Petition Area Proposed Projects Phase 3 – Beyond 20 Years	Foot Print (SqFt)	Acreage
Discipleship Learning Center		
Instruction Buildings	28,000	0.6
Café/Outdoor Dining Space	9,900	0.2
Student Resident Dormitory Buildings (9)	63,000	1.4
Athletic/Training Complex		
Aquatic Center Pool Complex	11,900	0.3
Discovery Center		
Exhibit Buildings	46,540	1.1
Lower School		
Instruction Buildings	5,440	0.1
Middle School		
Instruction Buildings	7,975	0.2
High School		
Instruction Buildings	11,610	0.3
Youth Camp		
Cabins	12,000	0.3
SUBTOTAL BUILDING FOOTPRINT AREA	196,365	4.5
Roadways and Pathways	126,560	2.9
SUBTOTAL ROADWAY & PATHWAY AREA	126,560	2.9
Parking Area for Instruction and Dormitory Buildings	68,370	1.6
Parking Area for Aquatic Center	3,700	0.1
SUBTOTAL PARKING AREA	72,070	1.7
Gathering Space Lawn Area	32,730	0.8
Training and Future Expansion Area	61,500	1.4
Open Space and Landscaping	444,020	10.2
SUBTOTAL OPEN SPACE/PERVIOUS AREA	538,250	12.4
TOTAL PHASE 3 AREA	933,245	21

2.4 Description of the Proposed Improvements

Proposed buildings and projects are as follows:

Discipleship Learning Center:

The expansion of the Discipleship Learning Center is proposed to include additional instruction and classroom space. The intent for the proposed expansion is to build six new instruction buildings, generally not to exceed three-stories in height, organized around quadrangles and courts. The new instruction buildings are an opportunity to upgrade and provide modern learning spaces that accommodate new interactive forms of teaching and learning for both students and faculty.

Chapel:

The Chapel proposed for the Petition Area will connect with and play a key role in the development of the center of the Discipleship Learning Center. Consisting of almost 4,000 square feet, the proposed Chapel is envisioned to be an iconic, round structure. The architectural character of the building will create a centralized gathering space fitting with its surroundings. The proposed structure may also include a stepped-level entry with an outside seating area and a courtyard to create a welcoming and pleasant outdoor meeting and gathering space, which is envisioned to be available for weddings and other gatherings.

Student Dormitory Buildings:

Student dormitory housing will be provided throughout the campus. Existing dormitories are over 30 years old and are badly in need of refurbishing to meet current student needs and building codes. The seventeen (17) new student dormitory buildings proposed would provide modern medium-density student housing facilities and accommodate approximately 80-100 beds on average for each dormitory building. The new student housing will be contained in two- to three- story wings connected by a two-story building containing common facilities. Parking areas are planned to accommodate the proposed student dormitory buildings.

Student Resource Center:

The Student Resource Center proposed for the Petition Area is an opportunity to provide an upgraded facility and a modern library space that accommodates new interactive forms of teaching and learning for both students and faculty. Consisting of a footprint of approximately 12,300 square feet, the proposed Student Resource Center will be a two to three-story structure, rounded-shaped modern building with an architectural character reflective of the distinct sense of place of the Kona Region. The proposed structure will create a new gateway to the Petition Area fitting with its surroundings. The Student Resource Center may also include an entry courtyard with landscaped pavers and a variety of new plantings to create a welcoming and pleasant outdoor meeting, study, and informal gathering space for students, faculty and visitors.

Café/Outdoor Dining Area:

The Café/Outdoor Dining Area proposed is expected to provide food service and an outdoor dining space in a courtyard setting, envisioned as an excellent space for casual dining in a café like setting for students, faculty and visitors.

Athletic Complex:

The proposed Athletic Complex is envisioned to include a multi-phased development of a new gymnasium and athletic facilities. The design of the gymnasium would be able to accommodate the evolving curriculum of physical education and function as a space for competitive sport activities. The proposed multi-story design of the gymnasium would accommodate a basketball court and a regulation volleyball court, spectator seating, locker rooms, public facilities, offices, training facilities, lighting, and storage amenities. In addition, the Athletic Complex is envisioned to have an outside practice field and a full-sized athletic soccer field directly adjacent to the gymnasium. The full-sized soccer field would be developed to accommodate competitive sport activities and the practice field would accommodate additional physical education and outdoor competitive sport activities. Athletic courts are also envisioned to be located adjacent to the athletic field. Another athletic building is included and would provide an additional locker room for visiting teams with athletic team meeting rooms and offices. In addition, as a part of the Athletic Complex an aquatic center is envisioned to include an Olympic-sized swimming pool and warm-up pool with spectator seating and facilities. Parking areas would be provided adjacent to the proposed gymnasium, athletic fields and aquatic center for the Athletic Complex.

K-12 School:

The K-12 School proposed for the Petition Area is envisioned to include a multi-phased development of a Lower, Middle and High School to accommodate students ranging from Kindergarten to Grade 12. The expansion of the school will help to address the demand for educational facilities for family residents enrolled at U of N Kona.

The Lower School proposed for the Petition Area is envisioned to accommodate students ranging from Kindergarten to Grade 5. The Lower School is envisioned to be situated along the Spine Road and the entry to the Lower School from the Spine Road is envisioned to have a circular pick-up/drop-off area for the parents and children. The intent for the proposed expansion is to build four new instruction buildings, which will be single-story and organized around quadrangles and courts. Adjacent to the instruction buildings, a new playground field is proposed for recess and outdoor educational activities.

The Middle School proposed for the Petition Area is envisioned to include a multi-phased development of a new intermediate school to accommodate students ranging from Grade 6 to 8. The Middle School will be situated along the southern road proposed to for the Petition Area and the entry is envisioned to have a circular pick-up/drop-off area for the parents and students. The plan for the Middle School envisions five new instruction buildings, two-story and organized around quadrangles and courts. Adjacent to the instruction buildings, a field and athletic courts are proposed for recess and outdoor educational activities.

The High School proposed for the Petition Area is envisioned to include a multi-phased development of a new high school to accommodate students ranging from Grade 9 to 12. The High School will be situated above the Lower and Middle School. The plan for the High School envisions eight new instruction buildings, two-story and organized around quadrangles and courts. Located below the instruction buildings, a large field and athletic courts are proposed for recess and outdoor educational activities. In addition, a gymnasium/cafetorium would support additional instruction and training activity space, and to accommodate cafeteria dining space and student gatherings. Parking areas are also planned to accommodate the Lower, Middle and High School.

Discovery Center:

The Discovery Center is proposed to be located along the makai border of the Petition Area. The Discovery Center is planned to include six multi-story buildings, generally not to exceed three-stories in height. The proposed buildings are intended to house the Discipleship Learning Center's expansive language library, informational resources, and function as an instructional and research facility with administrative and staff office spaces. The design of the Discovery Center includes a main entry building, circular in shape, located along the entrance to the Petition Area from Kuakini Highway. The main circular building at the entrance will guide pedestrian entry to the Discovery Center complex. The design of the Discovery Center also incorporates a large courtyard space with pathways, landscaping and parking areas to accommodate visitors, students, faculty and staff.

Youth Camp:

The Youth Camp proposed for the Petition Area is intended to provide a camping ministry for families and youth of all ages with a place of physical and spiritual refreshment. The design of the cabins is envisioned to include facilities and amenities to support camping activities for students, families, counselors and staff.

Agricultural Exhibit:

An Agricultural Exhibit is proposed to be located in the mauka portion of the Petition Area. The proposed Agricultural Exhibit would include a garden and food forest to support educational activities related to permaculture gardening, food sustainability and sustainable agriculture. In addition, the proposed Agricultural Exhibit would include a designated pen area for the safe keeping of animals and possibly an aquaponics exhibit. In addition, a small instruction building is planned to support the educational and vocational training activities, as well as small storage/tool sheds, a plant nursery, and amenities.

Maintenance and Storage Facilities:

New maintenance and storage facilities are proposed to be located along the mauka border of the Petition Area. The proposed maintenance and storage facilities are planned to include four new warehouse buildings, generally not to exceed three-stories in height. The planned warehouse buildings would include maintenance shops and facilities, storage for food and supplies, garage space, and a parking area with a delivery and loading area for large containers and delivery trucks.

Archaeological Preservation Sites:

For the Phase 1 Planning Program, restoration of archaeological sites located within the Petition Area is planned through the implementation of an approved SHPD preservation plan. The preservation plan includes implementation of permanent rock wall buffers around each of the four identified burial sites on the Petition Area. The installation of the rock walls will create a permanent preservation buffer for the identified burial sites and meet requirements identified by the preservation plan. In addition, a dismantling and restoration plan for Kuakini Wall, located along the makai portion of the Petition Area, would be implemented, in coordination with SHPD.

VOC Training and Future Expansion Area:

The vocational training and future expansion area proposed for the Petition Area is intended to provide an expanded training area necessary to the U of N Kona program. Vocational education provides training necessary to become qualified professionals in a variety of trades and would blend training and technical instruction to prepare students for direct entry into trades and mission activities.

Roadways and Parking:

The overall design concept of the roadways and parking for the Petition Area is to give priority to pedestrian circulation. Vehicular arrival points such as parking lots and driveways are located on the periphery of the Petition Area. The peripheral design of the roadways and parking areas provides significant areas for pedestrian use and open space in the interior of the Petition Area. The locations of the additional parking areas easily provide connections and access to the proposed roadways bordering the Petition Area.

Landscape, Open Space and Pathways:

The vision of the landscape plan for the Petition Area, as derived during the development of the UNK Update, is that of a tropical, compatible landscape that supports a Hawaiian sense of place, including views and native plants, and makes a substantial contribution to environmental sustainability concerns, including drought-tolerant plants and storm water management. Overall, the landscape plan for the Petition Area will integrate Hawaiian culture through the use of native plants and landscaping elements that are representative of the natural and cultural landscape. Tree-covered terraces will provide shade and areas for reading, sitting, and eating. A system of pathways is planned to allow for safe day and night travel for pedestrians, including persons with disabilities. The pathways will begin at arrival and parking areas, lead to major walking pathways, and connect to active and functional gathering places, such as outdoor courtyards and sitting areas fronting buildings. Walking surfaces will be permeable whenever possible.

Infrastructure Improvements:

Infrastructure improvements include expansion of the existing on-site center Spine Road that bisects the Existing Campus and Petition Area, the addition of a secondary access point off of Kuakini Highway and necessary roadway improvements, and other upgrades to the existing utilities. Within the Petition Area, on-site infrastructure facilities to be expanded include circulation roadways, water transmission lines, wastewater collection lines, drainage systems, and electrical/communication systems. All infrastructure improvements will be designed and sized to accommodate the UNK Update. Construction will begin with development of infrastructure after applicable grading permits have been issued.

2.5 List of Required Permits and Reviews

Table 2-3 includes a list of the government approvals and permits anticipated to be required for implementation of the UNK Update, organized by state and county requirements. Compliance with established plans and policies of state and county agencies is discussed further in *Section 6.0* of this EISPN, and will be further evaluated in the EIS.

Table 2-3: List of Permits and Reviews

Agency	Permits and Reviews
State of Hawai‘i	
Land Use Commission (Accepting Authority)	HRS, Chapter 343 Environmental Impact Statement, Acceptability Determination; Amendment of Decision & Order in Docket No. A02-737
Department of Land and Natural Resources, State Historic Preservation Division (SHPD)	Historic Preservation Review, Chapter 6E
Department of Health, Clean Water Branch	National Pollution Discharge Elimination System (NPDES) Permit
Department of Health, Environmental Management Division	Construction Noise Permit, Fugitive Dust, Wastewater System, Safe Drinking Water Permit
Department of Transportation, Highways Division	Highways Review, Turning Lane, Driveways and Private Storm Drain Connection
County of Hawai‘i	
Department of Planning, Planning Division	Zone Change, County Council Approval; Plan Approval, Kailua Village Design Commission
Department of Public Works, Engineering Division	Grading, Grubbing, Stockpiling Permits County Right-of-Way Permit, Sewer Connection
Department of Public Works, Building Division	Building Permits

3.0 Alternatives Considered

Alternatives to the UNK Update will be evaluated in the Draft EIS. The following are brief summaries of these alternatives.

3.1 No Action Alternative

Under the No Action Alternative, the Petition Area would remain in its current vacant state and no new facilities would be built.

3.2 Alternative Development Density

Lower Density Development Alternative

This alternative involves a lesser development than the UNK Update. For example, this alternative could propose developing Planning Program Phases 1 and 2, but not Phase 3.

Higher Density Development Alternative

Under this alternative, the Petition Area would be developed with greater density than the UNK Update. For example, this alternative could propose a larger building footprint to include additional instructional buildings and more student dormitories.

3.3 Alternative Land Uses

The Petition Area could be developed to encompass a range of viable urban land uses, such as primarily residential or commercial, which would present environmental impacts different from the UNK Update. Another potential alternative land use for the Petition Area is agricultural, which would also present environmental impacts different from the UNK Update. The Draft EIS will evaluate the impacts of both urban and agricultural alternative land uses.

3.4 Alternative of Deferral of the Proposed Action

Another alternative to implementing the UNK Update would be to defer the UNK Update.

The Draft EIS may evaluate and include discussion of other prudent and feasible alternatives which meet the U of N Kona's objectives that may be identified as part of the consultation process associated with publication of this EISPN.

4.0 Environmental Setting

The Draft EIS will discuss the environmental setting, potential impacts, and mitigation measures for the proposed UNK Update improvements planned for the Petition Area. The discussion below provides a description of the affected environment that will be evaluated in greater detail in the Draft EIS. For the Draft EIS, supportive technical resource surveys and investigations include:

- Natural Resources Surveys for University of Nations Expansion Property, TMK: (3) 7-5-010:085, North Kona District, Island of Hawai‘i, AECOS Inc., 2020.
- Mobility Analysis Report for the University of the Nations Kona Master Plan Update, Kona, Hawai‘i, Fehr & Peers, Inc., 2020. For the EIS, an updated study will be conducted to include Planning Program Phases 2 and 3.
- Preliminary Infrastructure Assessment, University of the Nations, Kona Master Plan Update, G70, 2020.
- Conceptual Infrastructure Master Plan, University of the Nations, Kona Master Plan Update, G70, 2020. For the EIS, an additional study will be conducted to include an extended civil infrastructure master plan for the proposed project.
- Water Supply Study for the Planned Expansion of University of the Nations, Kona, Hawai‘i, Tom Nance Water Resource Engineering, 2020. For the EIS, an updated study will be conducted to include additional water resource investigations and potential site analysis.
- Archaeological Inventory Study of TMKs: 3-7-5-10:85 and 3-7-5-17:06, Wai‘aha Ahupua‘a, North Kona District, Island of Hawai‘i, Retchman Consulting, 2003.
- Burial Site Component of a Preservation Plan for Three Sites in the Proposed Hualālai Village Development Area, TMKs: 3-7-5-10:85 and 3-7-5-17:06, Wai‘aha Ahupua‘a, North Kona District, Island of Hawai‘i, Retchman Consulting, 2003.
- Archaeological Data Recovery at Ten Sites on TMKs: 3-7-5-10:85 and 3-7-5-17:06, Wai‘aha Ahupua‘a, North Kona District, Island of Hawai‘i, Retchman Consulting, 2007.
- Preservation Plan for SIHP Site 6032 and Site 23681, TMKs: 3-7-5-10:085 and 3-7-5-17:006, Wai‘aha 1st Ahupua‘a, North Kona District, Island of Hawai‘i, Rechtman Consulting, 2013.
- Dismantling/Restoration Plan for a Portion of the Kuakini Wall (SIHP 5-10-28-6302) TMKs: (3) 7-5-010:085 and (3) 7-5-017:006, Wai‘aha 1st Ahupua‘a, North Kona District, Island of Hawai‘i, ASM Affiliates, Inc., 2019.
- Cultural Impact Assessment for the Update to the Master Plan for the Proposed 62-Acre Hualālai Village-Pacific Islands Cultural Center Development, Wai‘aha, Kona District, Island of Hawai‘i, TMK (3)-7-5-10:085; 7-5-17:006, Originally Prepared by Group 70 International, Inc., Updated by ASM Affiliates, Inc., 2020.
- Ka Pa‘akai O Ka ‘Aina Analysis, University of the Nations, TMKs: (3) 7-5-010:085 and (3) 7-5-017:006, ASM Affiliates, Inc., 2020.

4.1 Climate

The climate on the Island of Hawai‘i can be characterized as mild and subtropical. Overall, the conditions on the Kona Coast are somewhat warmer and drier, with relatively low variability. According to the University of Hawai‘i Geography Department Climate of Hawai‘i Interactive Mapping Tool, the temperatures at the Petition Area are very moderate with an average annual air temperature of approximately 74°F. The average monthly low temperature is around 70°F in January and the average monthly high temperature is around 77°F in August. The windward and northern regions of the Island of Hawai‘i are typically wetter than the western and southern regions. The annual rainfall at the Petition Area is 30 inches with February being the driest month with 1.5 inches and September the wettest with 3 inches of rainfall. The winds on the Island of Hawai‘i include trade winds, Kona winds and winds associated with hurricanes and tropical storms. Trade winds from the northeast prevail most of the year with an average wind speed of 5-10mph (Giambelluca, et al., Department of Geography, University of Hawai‘i at Manoa, State of Hawai‘i, 2014).

4.2 Geology and Topography

The Petition Area is located on the west coast of the Island of Hawai‘i, approximately one mile southeast of the town center of Kailua-Kona, in the North Kona District. The Petition Area is within the traditional moku of Kona and ahupua‘a of Wai‘aha 1st on the lower western slopes of Mount Hualālai. The Island of Hawai‘i is comprised of several volcanoes: Kohala, Mauna Kea, Hualālai, Mauna Loa, and Kīlauea. Of these volcanoes, only Mauna Loa and Kīlauea are considered active in addition to one active seamount, Lō‘ihi located offshore. The Petition Area is situated on the western slopes of Hualālai Volcano, which is dormant with its last eruption ending sometime in 1800-1801. The Hualālai Volcano is composed of two (2) types of lava flows: ‘a‘ā lava flow and pāhoehoe lava flow. The ‘a‘ā lava flow was formed by a slow moving and very viscous molten rock. The ‘a‘ā flow consists of a layer of clinkers and a core of hard massive basalt that originated from Hualālai between 1,500 and 3,000 years ago. The pāhoehoe lava is a fluid type of molten rock that flows relatively quickly down the slope with no overlying soil. The pāhoehoe lava was originated from Hulalālai 3,000 to 5,000 years ago. Most of the Petition Area is covered in ‘a‘ā and pāhoehoe lava flow.

The Petition Area is generally gently sloped at an elevation ranging from approximately 90 to 360 feet. The Petition Area rises in elevation from approximately 90 feet at Kuakini Highway to 360 feet at its highest point, with steepest slopes on the upper mauka side just below Hualālai Road (*Figure 4-1*). The overall slope of the Petition Area is approximately 5-10% and increases to as much as 25% just below Hualālai Road.

4.3 Soils

The physical attributes of Hawai‘i’s soils and the relative productivity of different Hawai‘i soil types for agricultural production purposes are addressed in three (3) studies: (1) the U.S. Department of Agriculture Natural Resource Conservation Services (NRCS) Soil Survey, (2) the University of Hawai‘i Land Study Bureau (LSB) Detailed Land Classification; and (3) the State of Hawai‘i Department of Agriculture’s, Agricultural Lands of Importance to the State of Hawai‘i (ALISH) system.

Soil information for the Petition Area was obtained from these studies, as summarized below.

Natural Resource Conservation Service Soil Survey:

The NRCS Soil Survey for the Island of Hawai‘i classifies the two primary soils of the Petition Area as: Wai‘aha-Punalu‘u Lava Flows Complex, 10-20% slopes, and Kainaliu Cobbly Silty Clay Loam, 10-20% slopes (*Figure 4-2*).

The Wai‘aha-Punalu‘u series consists of medial silt loams soils that formed in volcanic ash over pāhoehoe lava flows. The Kainaliu Cobbly Silty Clay Loam series consists of moderately deep, silty clay loams that formed in volcanic ash in ‘a‘ā lava flows. Both soils are located on low elevation, leeward slopes of Hualālai Volcano at elevations from sea level to 1,000 feet and slope gradients range from 2 to 40 percent. Both soils are well drained, permeability is moderately rapid in the soils and very slow in the underlying bedrock with slow runoff, and erosion hazard is slight. The typical uses identified are for grazing and homesites. On the Petition Area, the ground surface is very broken with heaps of sharp broken lava rock appearing more like ‘a‘ā than the smooth pāhoehoe. These fragments have been piled, apparently by hand, to facilitate cattle grazing.

Land Study Bureau Detailed Land Classification:

The LSB classification system, classifies soils based on a productivity rating. Letters indicate class of productivity with A representing the highest class and E the lowest. The LSB map classification for the Petition Area is “E”/Very Poor, or among the lowest levels of agricultural productivity.

Agricultural Lands of Importance to the State of Hawai‘i:

The ALISH system classifies important agricultural lands as Prime, Unique, or Other Important Agricultural Land. Lands that do not fall into one of the three ALISH categories are listed as Unclassified and are not considered agriculturally important lands. The soils within the Petition Area are listed as Unclassified. The nearest ALISH-classified parcel is roughly three-quarters of a mile south.

Figure 4-1: Topography Map

University of the Nations, Kona, Inc. 2020 Master Plan Update

Figure 4-2: Soils Map

University of the Nations, Kona, Inc. 2020 Master Plan Update

4.4 Surface Waters & Drainage

For the UNK Update, a Preliminary Infrastructure Assessment and a Conceptual Infrastructure Master Plan were prepared in 2020 by G70, which included an assessment of the existing and proposed drainage systems for the Petition Area. According to the assessments, U of N Kona has not reported any drainage issues on-site. The Petition Area has no perennial streams, existing drainage facilities, or defined natural drainage ways. The Petition Area generally slopes from mauka to makai in the east to west direction. Elevations on-site range from approximately 90 to 360 feet above mean sea level, with the lowest point located at the main campus entrance along Kuakini Highway. According to the NRCS Soil Survey, the soil groups present are typically well drained. It is believed that stormwater generated on the Existing Campus Site currently overland flows to the undeveloped Petition Area to the south where it is slowed by heavy vegetation and ultimately infiltrates into the ground.

In 2002, a drainage report was prepared by Ross Engineering, Inc. for U of N Kona to analyze the offsite stormwater drainage conditions that affect the Petition Area. Concentrated stormwater run-on enters the Existing Campus Site and Petition Area at four different locations from the mauka direction. Three culverts discharge runoff onto the Petition Area; an 84-inch pipe culvert crosses Hawaiʻi Belt Road/Queen Kaʻahumanu Highway and discharges runoff at the southeastern corner of the Existing Campus Site and a 36-inch and 30-inch culvert located at the intersection of Hawaiʻi Belt Road/Queen Kaʻahumanu Highway and Hualālai Road discharge runoff onto the Petition Area. On the Existing Campus Site (TMK (3) 7-5-010:003), stormwater run-on sheet flows across Hualālai Road and enters the Existing Campus Site north of the Hualālai Village Condominiums. No drainage report was found for the Hualālai Village Condominiums, but during a site visit, multiple dry wells were identified along the private road along the makai edge of the condo property adjacent to the Existing Campus Site. It is assumed that these dry wells dispose of all runoff generated and collected on the condominium site and no runoff flows onto the Petition Area.

The runoff that flows onto the Petition Area from the culverts flows through the undeveloped 62 acres toward Kuakini Highway or is infiltrated into the ground. At Kuakini Highway, there is an existing 24-inch culvert which conveys runoff across the highway. Immediately downstream of the culvert, there is a series of six (6) dry wells located on TMK (3) 7-5-018:094 (Owner: Walua Professional Center). No other culverts or drain structures were identified along Kuakini Highway. It is assumed run-on as well as runoff at the Petition Area is either disposed of by on-site or off-site drywells (across Kuakini Highway) or is slowed by heavy vegetation and the natural terrain as it infiltrates into the ground.

4.5 Groundwater Resources/Hydrology

On the Island of Hawaiʻi, groundwater is the primary source of drinking water. In Kona, groundwater occurs as both basal groundwater and high-level (dike-impounded perched) groundwater. The rainfall pattern of the region is responsible for the recharge of the basal aquifer that extends from the upper slopes of Hualālai to the shoreline. The basal lens in Kona is relatively thin and inconsistent due to the low rainfall input and the leakage of groundwater at the coastline. Wells drawing from basal groundwater in Kona are susceptible to salinity if they are drilled too deep or if they are over-pumped. The Petition Area is situated in the Keauhou Aquifer System (80901), which currently has an existing usage of 15.4 million gallons per day (MGD) and a sustainable yield of 38 MGD. Brackish water is another groundwater resource reserve type in Kona. Brackish water is

created as a result of seawater intrusion at the shoreline. Groundwater beneath the Petition Area occurs as a thin brackish basal lens underlain by saline groundwater of seawater salinity.

The County of Hawai‘i adopted by ordinance the Water Use and Development Plan Update (HWUDP) dated August 2010 and the Commission on Water Resource Management granted approval in December 2011. The Keauhou Aquifer System Area (ASYA) was identified to be considered for further evaluation and detailed assessment. Therefore, the Keauhou Aquifer System, Hawai‘i Water Use and Development Plan Update (Keauhou HWUDP), dated March 2017, guides the County in an integrated approach to land use planning and water resource development and provides an estimate of anticipated future water demand projections based on County land use/zoning policies and water use rates for the Keauhou ASYA.

The Keauhou HWUDP identifies the Petition Area as located in the Kona Water System, which extends from the Keahole-Kona International Airport south to the South Kona boundary where interconnection with the South Kona Water System is made. Historically, surface water from Wai‘aha Stream was diverted into large storage tanks located in Wai‘aha above Māmalahoa Highway, filtered, then piped down to Kailua-Kona by a small transmission line to large tanks above Kailua-Kona Village. The first potable water wells were placed in service in 1967 and most of the small pipelines initially installed have been replaced with larger mains. The County of Hawai‘i, Department of Water Supply (DWS) is supplied by ground water sources, including 12 wells and allocates existing water use. Five-year incremental water needs for the next 20 years based on population and growth rate projections are projected by the Keauhou HWUDP. The anticipated future water demand defined for the Keauhou ASYA by the Keauhou HWUDP reflects and considers proposed improvements with appropriate State Land Use Designation approvals, including consideration of the Petition Area’s proposed improvements.

The Keauhou HWUDP encourages development of future high-level wells for the DWS system in areas generally between 1,500-feet and 1,800-feet ground elevations mauka of Māmalahoa Highway, with the overall goal of sustainability throughout the region. The goal of this source development strategy is to accommodate future anticipated demands identified by the Keauhou HWUDP. According to the Keauhou HWUDP, the Petition Area is depicted to have a future anticipated demand of 100,000 Gallons Per Day (GPD) by the Conceptual Ground Water Source Development and Anticipated Water Demands Map, Aquifer Sector, Hualālai 809, Aquifer Systems, Keauhou 80901.

The Preliminary Infrastructure Assessment and Conceptual Infrastructure Master Plan included an assessment of the existing and proposed water systems for the Petition Area. The Existing Campus Site is supplied by the DWS off of the DWS 325 reservoir. There are no on-site water sources or sources of recycled or non-potable water. While the Petition Area is being developed in three phases over 30 years, a new water source(s) will be needed to support buildout of each phase and the expansion of the Petition Area. New wells may be drilled and treated to provide additional potable water on-site. For the UNK Update, a *Water Supply Study for the Planned Expansion of the University of the Nations, Kona, Hawai‘i* was conducted by Tom Nance Water Resource Engineering in 2020. U of N Kona has also been in discussions with neighboring landowners to potentially form partnerships to develop new wells and water sources off-site. Any off-site water source improvements would likely be dedicated to the County and additional DWS water unit credits would be secured for the expansion of the Petition Area. A discussion of the water source necessary to support the UNK Update will be addressed in greater detail in the Draft EIS.

4.6 Natural and Manmade Hazards

Earthquakes:

On the Island of Hawai‘i the majority earthquakes are linked to volcanic activity and the movement of magma within the Kīlauea Volcano or Mauna Loa Volcano. Based on the 2006 United States Geological Survey (USGS) International Building Code (IBC) Seismic Design Map, the County of Hawai‘i could experience severe seismic activity with ground motion anywhere from 0.30 up to 1.23 of the earth’s ground motion accelerations (g-force). The seismic hazard is highest along the southeast coast of the Island of Hawai‘i, followed by the Kona coast. The most recent large earthquake on Hawai‘i Island occurred on May 4, 2018, on the south flank of Kīlauea, with a magnitude 6.9. Seismic tremors on the Island of Hawai‘i have caused ground cracks, landslides, ground settlement, damaging tsunami, and mudflows. Existing buildings and infrastructure have been destroyed or damaged, and new construction could be impacted by seismic activity resulting in destruction and possible injury or loss of life (Fletcher III, Grossman, Richmond & Gibbs, 2002). The UNK Update must comply with IBC and County design standards.

Lava Hazards:

Hazard zones from lava flows are based mainly on the location and frequency of both historic and prehistoric eruptions. Volcanic hazard zone maps developed for the Island of Hawai‘i were revised by the U.S. Geological Survey in 1987. The Island of Hawai‘i is divided into nine (9) hazard zones according to the level and degree of potential hazards related to lava flows. An area designated as Zone 1 is considered to be an area of greatest potential hazard. The Petition Area is within lava hazard Zone 4, indicating a moderate hazard. Zone 4 includes all of Kailua-Kona and the entire Hualālai Volcano. The rating of 4 is for areas having a greater distance from active vents and topography making it less likely that flows will cover that area. The Petition Area is situated on the west-facing flank of the Hualālai Volcano. Hualālai Volcano is considered dormant, having last erupted in 1801. The percentage of Mount Hualālai that has been subject to damage from lava in the last 750 years is less than 15 percent. The Hualālai Volcano is considered by geologists to represent a post-shield stage of Hawaiian volcanism, characterized by a marked decrease in the eruption rate as the volcano drifts off the Hawaiian hotspot. Property loss and economic devastation are the most frequent consequences of lava flow. Based on the probability of lava flows in Zone 4, there is a low concern for developing structures in the Petition Area (*Figure 4-3*).

Hurricanes and Tropical Storms:

Hurricanes and tropical storms are both categorized as tropical cyclones, which are warm-core storms that originate over tropical waters with well-defined centers of closed surface wind circulation. A hurricane is a tropical cyclone that sustains surface winds of 64 knots (74 mph) or more. Tropical storms are categorized as an organized system of strong thunderstorms with defined circulation and maximum sustained winds of 39-73 mph (NOAA, 2015).

Hurricanes are considered to be relatively rare events in the Hawaiian Islands. Records show that strong wind storms have struck all major Hawaiian Islands. The first officially recognized hurricane in Hawaiian waters was Hurricane Hiki in August 1950. Since that time, five hurricanes have caused serious damage in Hawai‘i: Nina (1957), Dot (1959), ‘Iwa (1982), Estelle (1986), and ‘Iniki (1992).

However, with rising global temperatures, Hawai‘i is expected to experience a higher incidence of tropical storm events. In most recent history, Tropical Storm Iselle made landfall on Hawai‘i Island in 2014, causing considerable damage to utility poles, roadways, and homes on the windward side of the island. In 2016, Tropical Storm Darby made landfall on Hawai‘i Island, producing heavy rain and

widespread flash floods. In 2018, Hurricane Lane passed southeast of the Hawai‘i Island as a weakening Category 5 hurricane, causing severe mudslides and flash flooding.

Flooding:

The Federal Emergency Management Agency's Flood Rate Insurance Maps indicate that the Petition Area is within Zone X, which represents areas with minimal flood hazards. Zone X is defined as areas determined to be outside the 500-year flood plain (*Figure 4-4*).

Tsunami:

The Petition Area is not located within the Federal Emergency Management Area (FEMA) designated Tsunami Inundation Zone (*Figure 4-5*). Twenty-five of the tsunamis recorded in Hawai‘i since 1812 have had an adverse impact on the Island of Hawai‘i, seven caused major damage, and three were generated locally. The most recent tsunami to impact Hawai‘i Island occurred on March 11, 2011, causing property damage at several locations on the Kona coast.

Wild-land Fires:

The greatest danger of fire is where wild-land (trees and brush) borders urban areas. Although all the Hawaiian Islands are vulnerable to wild-land fires (especially during the summer months, prolonged drought and/or high winds), the great majority of wildfires are human-caused (intentionally caused or by negligence) and start along roadsides. The numbers of such fires are increasing. Wildfires can and do also occur naturally. Hawai‘i County has a Fire Prevention Bureau that works to prevent fires before they can cause injuries and property damage. The proposed project will comply with all fire code requirements.

Climate Change and Sea Level Rise:

As global temperatures increase, established patterns of weather and climate are shifting. These erratic changes in weather patterns have increased the severity of events like droughts, storms, floods, and even hurricanes, while at the same time causing these events to be more difficult to predict and protect against. The fragility of the ecosystems and unique island nature of the Hawaiian Islands make the State particularly vulnerable to the damaging effects of climate change. Among the impacts associated with climate change is the threat of rising sea levels. Recent projections of global sea level rise estimate an increase of up to 1-meter or higher above current sea levels. This is of particular concern to low-lying coastal communities and ecosystems that are exposed to a variety of coastal hazards, such as tsunamis and hurricanes. These hazards and the resulting risk to coastal areas can be exacerbated by sea level rise.

Figure 4-3: Lava Hazard Zone Map

University of the Nations, Kona, Inc. 2020 Master Plan Update

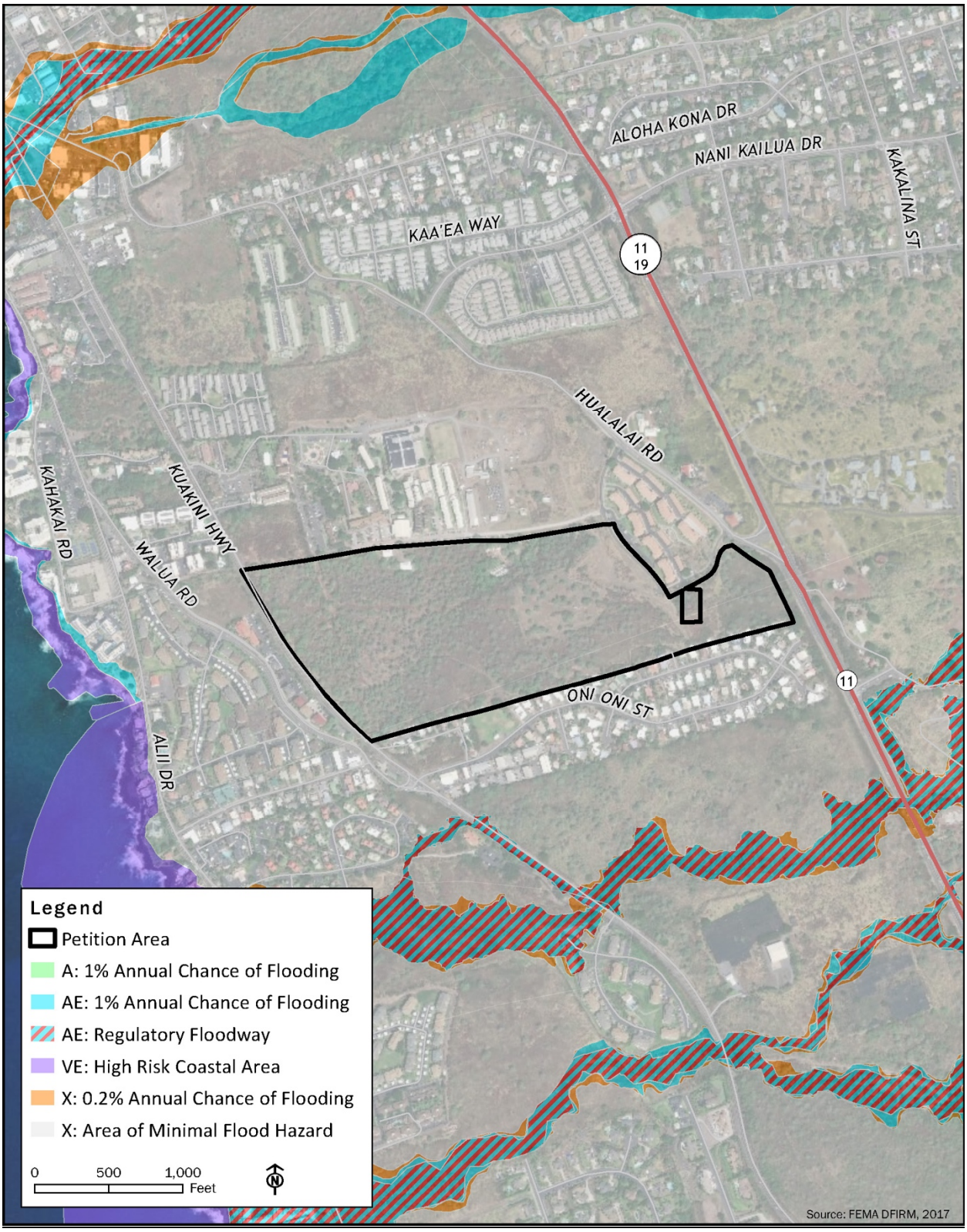

Figure 4-4: Flood Zone Map

University of the Nations, Kona, Inc. 2020 Master Plan Update

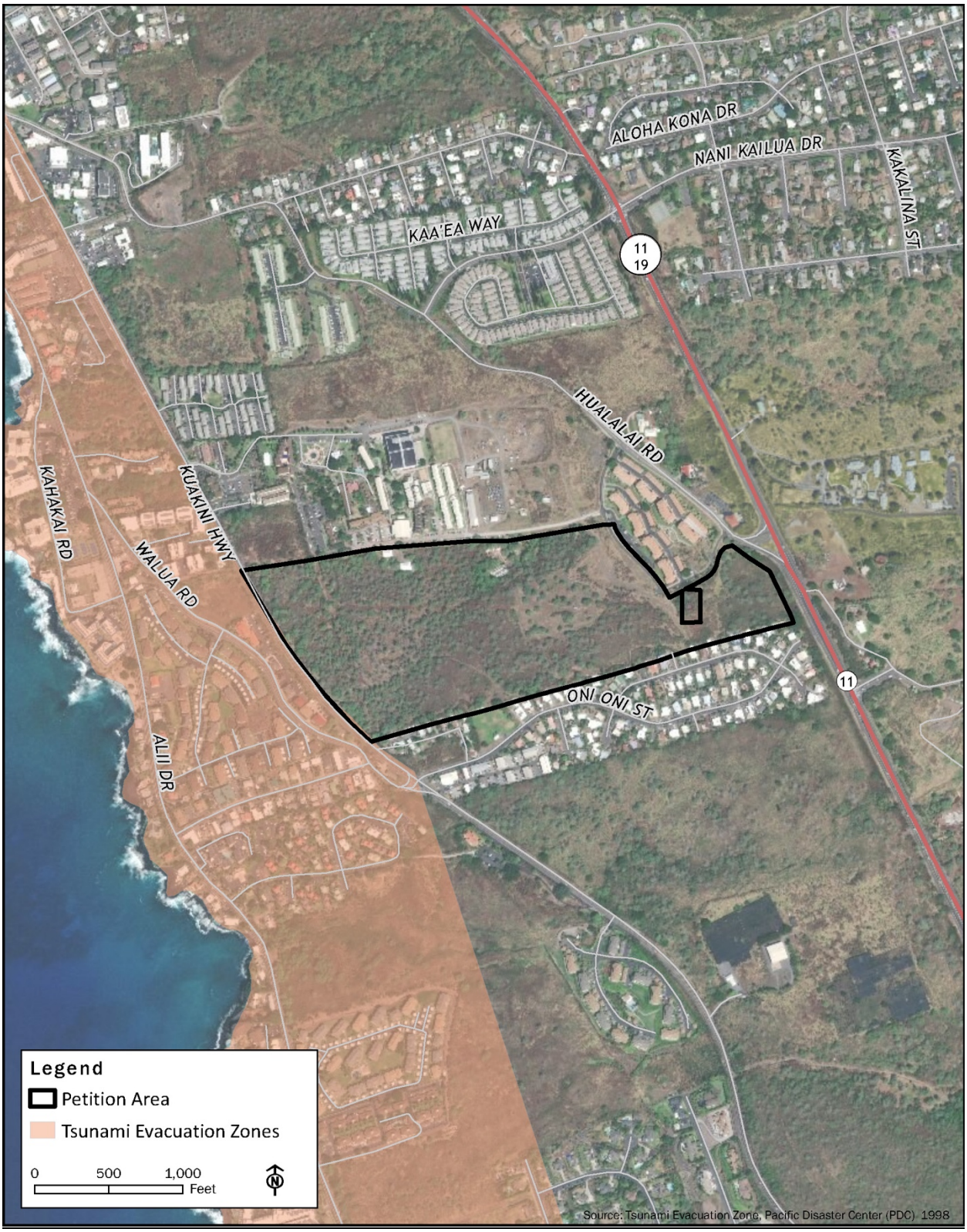

Figure 4-5: Tsunami Inundation Zone Map

University of the Nations, Kona, Inc. 2020 Master Plan Update

4.7 Botanical Resources

The UNK Update has been designed to ensure that facility types and the physical attributes of each facility site are compatible with urban development. The Petition Area was surveyed to ensure that the physical, environmental, and cultural attributes of the property were compatible with the land uses proposed. For the UNK Update, an updated *Natural Resources Surveys for University of Nations Expansion Property North Kona District, Island of Hawai'i* was prepared by AECOS, Incorporated in 2020. A previous flora and biological study of the Petition Area was completed in 2002 (Terry & Hart, 2002). At the time of the 2002 study, all portions of the Petition Area were surveyed, and no threatened or endangered plant species were present or would be expected to be present on the Petition Area. For the updated Natural Resources Surveys Study the entire Petition Area was re-surveyed by AECOS. The botanical survey found that most natural features on the property have been extensively modified by past agricultural activities. The Petition Area was found to be characterized by a mixture of scattered kiawe (*Prosopis pallida*) and short-stature koa haole (*Leucaenaleucocephala*) with moderately dense Guinea grass (*Megathyrsus maximus*) at the upper end and more open koa haole and areas of dense herbaceous growths of coffee senna (*Senna occidentalis*) and 'uhaloa (*Waltheria americanas*) in disturbed areas. Of the total list of botanical species, the botanical resources survey recorded only four native (indigenous) plants: 'ilima (*Sida fallax*), 'uhaloa (*Waltheria indica*), 'ilie'e (*Plumbago zeylanica*), and a common sedge (*Cyperus polystachyos*). All four are widespread in the Islands and of no conservation concern, with'uhaloa known to be common in both disturbed areas and areas of marginal growing conditions.

4.8 Fauna

For the UNK Update, an updated *Natural Resources Surveys for University of Nations Expansion Property, North Kona District, Island of Hawai'i* was prepared by AECOS, Incorporated in 2020. A previous fauna study of the Petition Area was completed in 2002 (Terry & Hart, 2002). At the time of the 2002 study, all portions of the Petition Area were surveyed, and no threatened or endangered animal species were present or would be expected to be present on the Petition Area. For the updated Natural Resources Surveys Study the entire Petition Area was re-surveyed by AECOS and a bird and mammal survey was conducted.

The Natural Resources Surveys Study recorded a total of 21 avian species. One of the species recorded, the Hawaiian Hawk (*Buteo solitarius*), which is listed as an endangered species, was observed flying over the site. Effective February 3, 2020, the Hawaiian Hawk has been delisted as an endangered species by the U.S. Fish and Wildlife Service, but remains listed by the State of Hawai'i. The remaining twenty other species recorded across the Petition Area are all commonly occurring established alien species.

The Natural Resources Surveys Study recorded five mammalian species. All of the mammalian species are deleterious to native ecosystems and the native faunal species dependent on them. No Hawaiian hoary bats were detected during the course of this survey. It is likely that this species forages over the site on a seasonal basis. The current vegetation on the site is not typical of that in which one would expect to find roosting Hawaiian hoary bats. The UNK Update is not expected to result in adverse impacts to the Hawaiian Hoary bat.

4.9 Air Quality

The U.S. Environmental Protection Agency (EPA) established the National Ambient Air Quality Standards (NAAQS) per the requirements of the Clean Air Act (last amended in 1990) to protect public health and welfare and prevent the significant deterioration of air quality. These standards account for seven major air pollutants: carbon monoxide (CO), nitrogen oxides (NOX), ozone (O_3), particulate matter smaller than 10 microns (PM_{10}), particulate matter smaller than 2.5 microns ($PM_{2.5}$), sulfur oxides (SOX), and lead (Pb). The State of Hawai‘i, Department of Health (DOH), Clean Air Branch (DOH-CAB) has also established State Ambient Air Quality Standards (SAAQS) for six of these air pollutants to regulate air quality statewide. The SAAQS for carbon monoxide and nitrogen dioxide are more stringent than NAAQS. Hawai‘i also has a stringent standard for hydrogen sulfide (H_2S), which is a common odorous pollutant associated with wastewater treatment facilities.

Air quality in the State of Hawai‘i is generally characterized as relatively clean and low in pollution. According to the Annual Summary 2014 Hawai‘i Air Quality Data, air quality monitoring data compiled by the DOH indicates that the established air quality standards for all monitored parameters are consistently met throughout the State and on the Island of Hawai‘i (State of Hawai‘i, DOH, 2014). DOH-CAB regularly samples ambient air quality at monitoring stations throughout the State, and annually publishes this information. The DOH has monitoring stations on the Island of Hawai‘i, which mainly measure air quality impacts from the volcanoes and geothermal energy production. The closest air monitoring station to the Petition Area is the Kailua-Kona Station, which is located approximately 2 miles south. Air quality data from the Kailua-Kona Station suggests that all National and State air quality standards are currently being met.

Present air quality at the Petition Area is primarily affected by natural, industrial, agricultural, and/or vehicular sources. Natural sources that may affect the Petition Area include wind-blown dust and volcanoes. Volcanic emissions (vog) consist of sulfur dioxide (SO_2) and persistently hangs over a majority of the West Hawai‘i area. Occasionally, wind patterns carry emissions from Kīlauea Volcano to the northwest, in the direction of the Petition Area. Kīlauea Volcano is recognized as the largest point source of SO_2 gas in the United States. Gaseous emissions increased dramatically in 2008 when a new vent opened at the Kīlauea Volcano’s summit. Emission estimates increased to 3,000 – 5,000 tons per day (TPD) of SO_2, in contrast to previous average emission of 1,700 TPD. The 2018 eruptions at the Kīlauea summit and Lower East Rift Zone also resulted in highly elevated gas emissions. Air flow from this direction carrying vog can result in an increase in pollution.

4.10 Noise

Existing background ambient noise levels within the Petition Area are largely attributed to motor vehicle traffic along the highways bordering the Petition Area, including Kuakini Highway on the west and Queen Ka‘ahumanu Highway and Hualālai Road on the east. The noise levels around the Petition Area are consistent with noise levels found in typical residential and school areas.

4.11 Utilities and Infrastructure

For the UNK Update, a Preliminary Infrastructure Assessment and a Conceptual Infrastructure Master Plan were prepared in 2020 by G70, providing an assessment of the existing and proposed infrastructure systems for the Petition Area. For the EIS, an additional study will be conducted to include an extended civil infrastructure master plan for the UNK Update.

The utilities and infrastructure necessary to support the UNK Update will be addressed in greater detail in the Draft EIS.

Water:

U of N Kona's water is supplied by DWS off of the DWS 325 reservoir. Its service zone limits are from 0 feet to the 225-foot elevation (while the existing campus is approximately 90 feet to 360 feet above sea level). There are no on-site water sources or sources of recycled or non-potable water. The campus is served from two DWS meters: a 6"x3" master FM meter located near the main campus entrance along Kuakini Highway, which connects to a 6" DWS main in Kuakini Highway, and an 8"x2" master FM meter located near the top of the spine road which connects to an 8" DWS main in the Hualālai Village lower driveway.

According to the Preliminary Infrastructure Assessment and Conceptual Infrastructure Master Plan, the anticipated additional water demands attributable to the development of the 62-acre Petition Area are shown below in *Table 4-1*:

Table 4-1: Projected Water Demand

Use [4]	Phase 1	Phase 2	Phase 3
P-12 Students (FTE) [1]	30,000	45,000	60,000
University Students (FTE) [1]	7,800	20,700	56,400
P-12 & University Students (Dorm) [2]	20,000	110,000	140,000
Total	**57,800**	**175,700**	**256,400**
DWS Water Units [3]	145	439	641

[1] 60 gallons per capita day (DWS Water System Standards)
[2] 100 gallons per capita day (DWS Water System Standards)
[3] 400 gpd per water unit (DWS Water System Standards)

Additional water infrastructure improvements may be required to serve the upper reaches of the Petition Area above the 225-foot elevation service of the DWS 325 reservoir. In lieu of pumps, a new service connection to the existing DWS water main in the Hawai'i Belt Road is proposed to extend water service from the DWS 595 shaft to the upper elevations of the Existing Campus Site and Petition Area situated above the 225-foot elevation service.

Wastewater:

According to the Preliminary Infrastructure Assessment and Conceptual Infrastructure Master Plan, U of N Kona's Existing Campus Site is connected to the County of Hawaiʻi Department of Environmental Management's wastewater system. There is an existing 8-inch private sewer main on-site along the existing on-site Spine Road that collects wastewater from the individual campus buildings and discharges it to an existing municipal 18-inch gravity sewer main within Kuakini Highway. The County gravity sewer main flows to the Kealakehe Pump Station and continues to the Kealakehe Wastewater Treatment Plant in Kailua-Kona.

There is existing wastewater infrastructure only on the Existing Campus Site at this time, and there is no wastewater infrastructure on-site at the Petition Area. The existing 18-inch County sewer main is assumed to continue fronting the Petition Area within Kuakini Highway.

Power and Communication System:

According to the Preliminary Infrastructure Assessment and Conceptual Infrastructure Master Plan, electrical service to U of N Kona's Existing Campus Site is currently provided by Hawaiian Electric (HE) and communication services are provided by both Hawaiian Tel (HTCO) and Spectrum. As State of Hawaiʻi Public Utility Commission (PUC) regulated public utilities, HE and HTCO are responsible for the development of off-site facilities that meet island-wide needs, such as power generating plants and power and signal transmission lines, and facilities that serve regional needs of Kailua-Kona. Presently, the Existing Campus Site is served by these utilities off of Kuakini Highway. The HE electrical service is at the primary distribution voltage of 12.47kV, three-phase, through a single metering point. The power is further distributed at 480/277v, 208/120v, three and single phase, to the existing buildings and facilities. This electrical infrastructure is owned and maintained by U of N Kona.

Spectrum is a State of Hawaiʻi Department of Commerce and Consumer Affairs cable television franchisee that is the sole land-line provider of cable television service to Hawaiʻi Island. Although not a PUC regulated utility, Spectrum's off-site facility construction policy is to provide such facilities where the anticipated revenue from the prospective service connections warrants the expenditure. HTCO has a similar policy with regard to new developments.

Roadways and Vehicular Access:

The Existing Campus Site's primary point of access point is a driveway on Kuakini Highway. The Existing Campus Site has a series of on-site roadways and parking lots connecting the campus' different areas of interest that are linked by an existing on-site Spine Road. The Spine Road is located along the Existing Campus Site's southern property line (and common boundary with the Petition Area) and extends from Kuakini Highway to Hualālai Road.

The privately owned Hualālai Village condominiums located just mauka of the Existing Campus Site have privately-owned perimeter roads that abut the Existing Campus Site and Petition Area. U of N Kona has only limited rights to use these roads.

4.12 Traffic and Mobility Analysis

For the UNK Update, a *Mobility Analysis Report for the University of the Nations, Kona Master Plan Update, Kona, Hawai‘i* was conducted in 2020 by Fehr and Peers, Incorporated. For the Draft EIS, an updated Mobility Analysis Report (MAR) will be conducted to include Planning Program Phases 2 and 3. The Existing Campus Site is currently accessible via one driveway along Kuakini Highway, approximately one-half mile north of the intersection of Kuakini Highway and Walua Road/Oni Oni Street. The driveway is a two-lane road that provides controlled access to visitors. Land uses along Kuakini Highway in the vicinity of the Petition Area include commercial, single-family residential, and multi-family residential uses. Other surrounding land uses include residential neighborhoods and agricultural uses. For the MAR, a comprehensive data collection effort was undertaken to identify existing transportation conditions in the vicinity of the Petition Area. The assessment of existing conditions relevant to the MAR included an inventory of the street system, traffic volumes on these facilities, and operating conditions at key intersections.

<u>Existing Roadway System:</u>

The existing key roadways providing access to or in the vicinity of the Petition Area include:

- The Existing Campus Site's driveway provides direct access from Kuakini Highway and serves as the primary internal roadway providing access to existing facilities. The two-lane roadway extends mauka and terminates just west of the Aloha Lanai Cafeteria. The posted speed limit is 15 miles per hour (mph).

- Kuakini Highway is the primary street that provides access to the Petition Area. Adjacent to the Petition Area, it is a two-lane collector roadway that extends generally from the north end of the town of Kailua-Kona to Queen Ka‘ahumanu Highway. The posted speed limit is 35 mph. Kuakini Highway is under the jurisdiction of the County of Hawai‘i Department of Public Works (DPW). Sidewalks are not provided on either side of Kuakini Highway. No bicycle facilities exist along Kuakini Highway within the MAR's study area. Crosswalks are provided at the intersection of Kuakini Highway and Hualālai Road.

- Hualālai Road is a two-lane local roadway that is under the jurisdiction of DPW. It runs east-west between Ali‘i Drive and Queen Ka‘ahumanu Highway. The posted speed limit is 25 mph. Sidewalks are provided on both sides of the roadway makai of Kuakini Highway, on the north side of the roadway between Kuakini Highway and the Regency at Hualālai, and on the south side of the roadway just makai of Queen Ka‘ahumanu Highway. No bicycle facilities exist along Hualālai Road within the MAR's study area. On-street parking is not provided.

- Queen Ka‘ahumanu Highway is a two-lane highway that is under the jurisdiction of the State of Hawai‘i Department of Transportation. It is a major component of the Hawai‘i Belt Road and runs from Hwy 19 in Kailua-Kona to Hwy 19 in Hilo. The posted speed limit within the MAR's study area is 45 mph. Neither sidewalks nor bicycle facilities are provided along the roadway. On-street parking is also not provided.

- Nani Kailua Drive is a two-lane local roadway that is under the jurisdiction of DPW. It runs east-west and extends from Hualālai Road to just mauka of Pikake Place. The posted speed limit is 25 mph. Neither sidewalks nor bicycle facilities are provided along the roadway. On-street parking is provided on both sides of the roadway.

Existing Transit Facilities and Services:

According to the MAR, the County of Hawai‘i Mass Transit Agency’s Hele-On Bus provides island-wide commuter and fixed-route service on the Island of Hawai‘i, where it served over 800,000 riders in the fiscal year of 2016-2017. Hele-On offers fixed-route transit service in the Hilo and Kona areas Monday through Saturday, and limited commuter services to the South Kohala Resort (SKR) areas seven days a week. Within the Petition Area, the Pahala-Kona-South Kohala Route provides daily service along Queen Ka‘ahumanu Highway with transit stops both north and south of the Petition Area. Detailed route schedule information, such as operating hours and frequencies, was not available.

Existing Bicycle Activity:

According to the MAR, the study area has a low level of bicycle activity. Based on the peak period traffic counts, a range of 0-16 bicyclists were observed at each intersection during the AM peak hour and a range of 0-6 bicyclists were observed at each intersection during the PM peak hour. In general, most bicyclists were traveling mauka- bound along Hualālai Road.

At the intersection of Kuakini Highway and the Existing Campus Site's driveway, the highest level of morning bicycle activity occurred from 7:15 to 8:15 AM, with a total of two (2) bicyclists traveling through the intersection. In the evening, the highest level of bicycle activity occurred from 4:15 to 5:15 PM with a total of two (2) bicyclists traveling through the intersection.

Existing Pedestrian Activity:

According to the MAR, the study area generally has a low level of pedestrian activity, except for the intersection of Kuakini Highway and Hualālai Road, where pedestrian activity is high. During the AM peak hour, 46 pedestrians were observed at the intersection of Kuakini Highway and Hualālai Road, and between zero (0) and three (3) pedestrians were observed at the other study intersections. During the PM peak hour, 32 pedestrians were observed at the intersection of Kuakini Highway and Hualālai Road, and between zero (0) and 11 pedestrians were observed at the other study intersections.

At the intersection of Kuakini Highway and the Existing Campus Site's driveway, the highest levels of pedestrian activity occurred in the morning from 7:15 to 8:15 AM with one (1) pedestrian, and in the evening from 4:15 to 5:15 PM with a total of 11 pedestrians. At the intersection of Kuakini Highway and Hualālai Road: 28 AM and six (6) PM peak hour pedestrian trips crossed the north leg of the intersection, five (5) AM and three (3) PM pedestrian trips crossed the south leg of the intersection, five (5) AM and 22 PM pedestrian trips crossed the mauka leg of the intersection, and a total of eight (8) AM trips and one (1) PM pedestrian trip crossed the makai leg of the intersection.

Existing Traffic Volumes/Lane Configurations:

Operations of the seven (7) existing study intersections were evaluated for the weekday AM and PM peak hours. Traffic counts were collected during the weekday AM and PM peak periods in October 2019 while university classes were in session. The weekday peak hours of traffic for the study area generally occurred between the hours of 7:15 to 8:15 AM and 4:15 to 5:15 PM. Existing lane configurations and signal controls were obtained through field observations and the following key observations were made:

- Kuakini Highway/Hualālai Road: Vehicular congestion along Kuakini Highway limits the number of vehicles that can pass through this intersection during the peak hour than would

in free-flow conditions. As fewer vehicles pass through the intersection, intersection delay is lower, and LOS is more desirable, than existing field observations indicate.

- **Queen Ka‘ahumanu Highway & Nani Kailua Drive:** Vehicular congestion along Queen Ka‘ahumanu Highway limits the number of vehicles that can pass through this intersection during the peak hour than would in free-flow conditions. As fewer vehicles pass through the intersection, intersection delay is lower, and LOS is more desirable, than existing field observations indicate.

Existing Intersection Levels of Service:

According to the MAR, peak hour intersection capacity analysis was performed for the study intersections and the recently collected peak hour traffic count data. *Table 4-2* below summarizes the results of the intersection operations analysis for Existing Conditions.

As shown in *Table 4-2*, the following intersections operate at less-than-desirable LOS:

- Kuakini Highway and Existing Campus Site’s Driveway: LOS E (AM Peak)
- Queen Ka‘ahumanu Highway and Kuakini Highway: LOS E (AM Peak)

Intersection results are generally consistent with field observations, except for the intersections of Kuakini Highway/Hualālai Road and Nani Kailua Drive/Queen Ka‘ahumanu Highway. These intersections operate worse than what is shown in *Table 4-2*, primarily because congestion along Kuakini Highway and Queen Ka‘ahumanu Highway limits the number of vehicles that are able to pass through the intersection during the peak hour than would pass in free-flow conditions.

Table 4-2: Existing Peak Hour Intersection Levels of Service

Intersection	Traffic Control	Peak Hour	Existing Conditions	
			(sec/veh)[1,3]	LOS[2,3]
1. Kuakini Highway & Hualālai Road	Signalized	AM	17.4	B
		PM	19.2	B
2. Kuakini Highway & U of N Kona Driveway	SSSC	AM	**38.7**	**E**
		PM	33.0	D
3. Hualālai Road & Nani Kailua Drive	SSSC	AM	10.6	B
		PM	10.5	B
4. Queen Ka‘ahumanu Highway & Nani Kailua Drive[4]	Signalized	AM	11.1	B
		PM	11.9	B
5. Hualālai Village Driveway & Hualālai Road	SSSC	AM	11.3	B
		PM	10.4	B
6. Queen Ka‘ahumanu Highway & Hualālai Road[4]	SSSC	AM	32.9	D
		PM	23.5	C
7. Queen Ka‘ahumanu Highway & Kuakini Highway	SSSC	AM	**38.4**	**E**
		PM	28.7	D

Source: Fehr & Peers, Inc., 2020 Notes:

[1] Whole intersection weighted average stopped delay expressed in seconds per vehicle for signalized intersections. The vehicular delay for the worst movement is reported for the side-street stop-controlled (SSSC) intersection, and traffic along the main roadways typically moves more efficiently.

[2] LOS calculations performed using the Highway Capacity Manual (HCM) method.

[3] Unacceptable seconds of delay per vehicle and LOS highlighted in **bold**.

[4] Congestion along Queen Kaahumanu Highway limits the number of vehicles that can pass through this intersection. Actual intersection operations operate worse than indicated.

Figure 4-6: Existing Peak Hour Traffic Volumes and Lane Configurations (Fehr & Peers, Inc., 2020)

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4.13 Socio-Economic Characteristics

The U.S. Census reported that the population of the County was 185,079 in 2010. The overall population increased by approximately 9% between 2000 and 2010 according to the U.S. Census 2010. The Petition Area is located in the U.S. Census Bureau's Holualoa Census Designated Place (CDP). In 2010, the Holualoa CDP population was 8,538 compared to 6,107 in 2000.

Table 4-3 below summarizes the population and characteristics of the Holualoa CDP compared to the County and State. The median age for the Holualoa CDP is 43.5. The 2010 U.S. Census reported 3,372 households in the Holualoa CDP with an average of 2.7 persons per household. The permanent population of North Kona is very ethnically diverse, with about 25% of the population being Hawaiian or Part-Hawaiian. The median income for a household in the Holualoa CDP was reported as $85,811, which is higher than the average median income for the County. About 8.6% of the population is below the poverty line.

Table 4-3: Population Characteristics

Area	Population (2010)	Median Age (Years)	Persons/ Household	Ethnicity (percent)
Holualoa CDP	8,538	43.5	2.7	White: 55.6% Asian: 19.7% Hawaiian: 5.3% Other/Mixed: 19.4%
County of Hawai‘i	185,079	40.9	2.7	White: 33.7% Asian: 22.2% Hawaiian: 8.5% Other/Mixed: 35.6%
State of Hawai‘i	1,360,301	38.6	2.89	White: 24.7% Asian: 38.6% Hawaiian: 5.9% Other/Mixed: 30.8%

Source: (U.S. Census Bureau, 2010)

According to the 2010 U.S. Census, the local economy within the Holualoa CDP is primarily based on accommodation and food services, followed by retail, trade, finance, real estate, professional/management/administrative, and construction. Within the Holualoa CDP, approximately 60% of the population is employed, 5.7% unemployed, and 30% not in the labor force (based upon the employment status of the population 16 years or older).

The State of Hawai‘i projects a 95% increase in multi-national immigration, with increasing numbers of English as a second language students entering the schools. The cultural diversity of North Kona is evident in the non-white population which includes Japanese, Chinese, Filipinos, Portuguese, Mexicans, Africans, Vietnamese, Native Americans, Eskimos, Aleuts, Koreans, Micronesians, Samoans, Guamanians, and other Pacific Islanders. Of these, 17% speak a language other than English, with 43% able to speak only limited English. Many of those able to speak English speak a different language at home.

4.14 Public Facilities and Services

Educational Facilities:

The State of Hawaiʻi Department of Education (DOE) runs the State's public schools. The Board of Education considers the County the Hawaiʻi District. Within this district, the Kailua-Kona urban area is part of the Kealakehe Complex subsection.

The following Kealakehe Complex, DOE public schools service the Petition Area:

- Hōlualoa Elementary School
- Kealakehe Elementary School
- Kealakehe Intermediate School
- Kealakehe High School
- Innovations Public Charter School
- Kanu o ka ʻĀina New Century Public Charter School
- West Hawaiʻi Explorations Public Charter School

Recreational Facilities:

There are many recreational facilities and public parks in the greater Kailua-Kona region. They are run by the U.S. National Park Service, State of Hawai'i Department of Land and Natural Resources (DLNR), or County of Hawaiʻi Parks and Recreation.

Some of the parks closest to the Petition Area are:

- Hale Halawai Park to the north on Aliʻi Drive.
- Kamakahonu Beach to the north next to Kailua Pier.
- Old Kona Airport State Recreation Area, County of Hawaiʻi, Kailua Beach, Kekuaokalani Gymnasium, and Kona Community Aquatic Center located to the north on Kuakini Highway.
- Kaloko-Honokōhau National Historic Park to the north on Queen Kaʻahumanu Highway.
- Pāhoehoe Beach Park and Magic Sands Beach Park to the south on Aliʻi Drive.
- Hillcrest Park located to the south on Oni Oni Street.

Police:

The Petition Area is located in the Hawaiʻi Police Department Area II, Kona Patrol District. The Kona Patrol District encompasses 834 square miles and is between the South Kohala District at Kaʻauʻau Point and the Kaʻū District at Kaulanamauna. Its officers operate from a central station in Kealakehe and from district stations in Keauhou and Captain Cook, as well as a mini-station in Kailua Village. The central Kona Station is located at 74-611 Hale Mākaiʻi Place, Kailua-Kona, an approximately 3.2-mile drive north from the Petition Area.

Fire:

The Hawaiʻi County Fire Department protects the County from fire and fire hazards. The Department also provides emergency medical services, rescue services, extrication services, and emergency hazardous material mitigation. The Kailua-Kona Fire Station, Hawaiʻi County Fire Station #7, West Battalion, is located approximately 1.5-miles north from the Petition Area.

Emergency Medical Services:

The Kona Community Hospital services the Kona community, and is located in Kealakekua approximately 9.4 miles north of the Petition Area. Other health care facilities in the vicinity of the Petition Area include Kaiser Permanente Kona Medical Office approximately 4-miles to the north, and West Hawai‘i Community Health Center (Kealakehe) approximately less than 0.5-mile to the north. In addition, Aloha Kona Urgent Care, a healthcare clinic associated with U of N Kona, is located less than 0.6-mile to the south from the Petition Area.

Solid Waste Management:

The County of Hawai‘i Department of Environmental Management Wastewater/Solid Waste Division operates two County landfills, one in Kona (Pu‘uanahulu Landfill) and the other in Hilo (Hilo Landfill). There are also several solid waste transfer stations located around the island. The nearest transfer station is the Kealakehe Transfer Station and Recycling Center in Kailua-Kona, located an approximately 3-miles drive north from the Petition Area.

4.15 Archaeological Resources

For the UNK Update, a *Cultural Impact Assessment for the Update to the Master Plan for the Proposed 62-Acre Hualālai Village-Pacific Islands Cultural Center Development, Wai‘aha, Kona District, Island of Hawai‘i, TMK (3)-7-5-10:085; 7-5-17:006* was conducted by ASM Affiliates, Incorporated in 2020. The 2020 Cultural Impact Assessment is an update to a previous Cultural Impact Assessment conducted for the Petition Area by G70 in 2003. According to the 2020 Cultural Impact Assessment, there have been a number of archaeological and cultural studies conducted for the Petition Area and surrounding lands, including studies within the Wai‘aha Ahupua‘a and the coastal *kula* areas of Kailua-Kona (*Table 4-4*). These studies have included archaeological inventory surveys (AIS), archaeological data recovery projects, subsurface testing, and burial treatment planning. These studies have identified a range of both late Precontact and early Historic residential sites, many of which were associated with elite members of Hawaiian society. Also prevalent in the region are features associated with transportation, opportunistic and more formalized agriculture, temporary and permanent habitation, burials, and ceremony. Collectively, the findings of previous archaeological and cultural investigations conducted within and in the general vicinity of the Petition Area allow for a holistic portrayal of past land use and settlement patterns for Kailua-Kona’s *kula* lands and other contributing factors to the overall cultural landscape.

Table 4-4: Previous Archaeological and Cultural Studies Conducted		
Year	Author	Type of Study
1994	Head et al.	Archaeological Inventory Survey
1996	Walker et al.	Archaeological Data Recovery
2000	Rechtman	Archaeological Inventory Survey
2002	Corbin and Rosendahl	Archaeological Assessment Survey*
2002	Rosendahl	Burial Site Testing Report*
2003	McKeague	Cultural Impact Assessment*
2003	Clark and Rechtman	Archaeological Inventory Survey*
2003	Rechtman	Burial Treatment Plan*
2007	Rechtman and Loubser	Data Recovery Report*
2013	Rechtman	Preservation Plan*
2019	Barna	Dismantling/Restoration Plan*
2020	ASM Affiliates, Inc.	Cultural Impact Study*
2020	ASM Affiliates, Inc.	Ka Pa‘akai O Ka ‘Aina Analysis*

* Previous Archaeological and Cultural Studies Conducted within the Petition Area.

1994 Archaeological Inventory Survey:

In 1994, Paul H. Rosendahl, Inc. (PHRI) conducted an *Archaeological Inventory Survey for the Ali‘i Drive Sewer Project, Lands of Pua‘a 2nd and 3rd, and Wai‘aha 1st and 2nd, North Kona District, Island of Hawai‘i (TMK: 7-5-18:7,8)*. The 1994 AIS was conducted for the Ali‘i Drive Sewer Project on parcels located makai of Kuakini Highway, in close proximity to the Petition Area. As a result of the 1994 AIS, a total of 20 archaeological sites comprised of at least 38 associated features were identified. A variety of formal site types were documented during the study including but not limited to mounds, alignments, walls, enclosures, trails, and lava blisters and caves, and were assigned functional interpretations relating to agriculture, temporary and permanent habitation, transportation, animal husbandry, landscape clearance, and potential ceremonial and burial functions. It was recommended by the 1994 AIS that data recovery be conducted at 17 of the sites, all of which were assessed as significant under Criterion D and five of which were recommended for preservation. The remaining three sites were recommended for no further work, and it was proposed that although they contained only limited potential with regards to future potential research, they be integrated into the then-proposed landscaping of the project area. It was determined that while construction activities for the then-proposed development did not threaten the integrity of 17 of the sites, three could not be avoided.

1996 Archaeological Data Recovery Report:

In 1996, PHRI conducted an *Archaeological Data Recovery Report for the Ali‘i Drive Sewer Project Mitigation Program – Phase II, Lands of Pua‘a 2nd and 3rd, and Wai‘aha 1st and 2nd, North Kona District, Island of Hawai‘i (TMK: 7-5-18:7,8)*. The 1996 Data Recovery Report was conducted in follow-up to the 1994 AIS prepared for the Ali‘i Drive Sewer Project on the parcels located makai of Kuakini Highway, in close proximity to the Petition Area. Data recovery was conducted at the selected sites identified during the 1994 AIS prepared by PHRI. Data recovery was conducted on three archaeological sites that were purported to be unavoidable during construction activities: Site 15507, two modified outcrops and a terrace; Site 15511, a small lava tube and two additional adjacent caves; and Site 15526, originally assigned as a coral and waterworn cobble- paved area

with scattered midden and reinterpreted during the Phase II work as a platform. A total of 20 units (four each in Sites 15507 and 15511 and 12 in Site 15526) were excavated within the data recovery sites. Cultural material and portable remains (e.g. charcoal, *kukui*, gourd, and coconut fragments, marine shell, lithic and volcanic glass debitage and shatter, basalt hammerstones, possible adze fragments, echinoid and coral abraders, a bone awl and pick, fishhooks, shell ornament, historic glass and metal fragments, and a stone pendant) were recovered along with varying amounts of mammal, bird, turtle, lizard, rat, mouse, pig, and fish bone. Additionally, and more importantly, human skeletal remains were recovered from all three sites, although the remains recovered from 15511 and 15526 were likely deposited secondarily as a result of natural processes rather than being in an *in situ* context. The human skeletal remains associated with Site 15507, however, were determined to be representative with an articulated individual *in situ* and were ultimately recommended for preservation in place.

2000 Archaeological Inventory Survey:

In 2000, Rechtman Consulting, LLC conducted an *Archaeological Inventory Survey of TMK: 3-7-5-18:08, Waiʻaha 1st Ahupuaʻa, North Kona District, Island of Hawaiʻi*. The 2000 AIS was also conducted for one of the parcels located makai of Kuakini Highway, in close proximity to the Petition Area. Small portions of the parcel had been previously surveyed by PHRI as a part of the previous 1994 AIS conducted by PHRI and 1996 Data Recovery Report. Of the 29 sites previously recorded, 28 were extant. Of these, one (Site 15525) was reevaluated as non-cultural. Twelve of the remaining sites were assessed as likely deriving from the Precontact Period: two were agricultural in nature (Sites 21992 and 22065), nine were associated with habitation (Sites 15517, 15518, 15521, 15524, 21991, 22067, 22068, 22069, and 22070), and one was a habitation/burial site (Site 15507). Three of the identified sites (Sites 21194, 21196, and 22063) were concluded to date to the late Precontact/early Historic Period and may have been associated with one another. The 2000 AIS opined that these three sites appeared to be of religious significance, and noted the presence of human remains at one of them (Site 22063). Twelve of the 28 sites dated to the Historic Period, all of which consisted of stone walls or enclosures likely associated with cattle ranching practices during the early to mid-twentieth century.

2002 Archaeological Assessment Survey:

In 2002, PHRI conducted an *Archaeological Assessment Survey of U of N Bencorp Development, Land of Waiʻaha 1st and 2nd, North Kona District, Island of Hawaiʻi (TMK: 3-7-5-17:6; 3-75-18:73)* within the Petition Area. As a result of the fieldwork, 28 archaeological sites encompassing 45 features were documented, and a single previously identified site, the Kuakini Wall (Site 6302), was relocated. Other recorded feature types included walls, terraces, mounds, modified outcrops, platforms, enclosures, and lava blister caves. Identified site types were assigned various functions including habitation, ranching, agricultural, and burial.

2002 Burial Site Testing Report:

Later in 2002, PHRI conducted an *Interim Report: Testing of Possible Burial Features Archaeological Inventory Survey – Phase 1, U of N Bencorp Development, Lands of Waiʻaha 1st and 2nd, North Kona District, Island of Hawaiʻi (TMK: 3-7-5-17:6; 3-75-18:73)*. The 2002 Burial Site Testing Report was conducted within the Petition Area and included subsurface testing of a sample of possible burial features. Eleven features at eleven different sites were tested for the presence of burials, however this investigation yielded negative results. A small amount of cultural material including a coral abrader, adze fragment, and marine shell fragments were documented during these excavations but appeared to never have been collected.

2003 Archaeological Inventory Survey:

In 2003, Rechtman Consulting, LLC conducted an *Archaeological Inventory Study of TMKs: 3-7-5-10:85 and 3-7-5-17:06, Waiʻaha Ahupuaʻa, North Kona District, Island of Hawaiʻi*. The 2003 AIS was conducted within the Petition Area. As a result of the 2003 AIS, 25 previously unrecorded sites and a single previously recorded site were identified (*Table 4-5*). Site types identified during the study were both Historic and Precontact in nature and were grouped into seven categories: Historic ranching related sites and boundary walls, Precontact habitation sites, trails, ceremonial sites, game boards, burials, and agricultural sites. As part of the investigation, twenty-two 1 x 1 meter test units (TUs) were excavated at ten sites (Sites 23668, 23670 Feature B, 23672 Features A and B, 23673 Feature A, 23675, 23676, 23677, 23681 Feature A, 23683, 23684, 23685, and at 23686 Features 183, 187, 189, 201, 204, 239, 262, 266, 271, and 297). Subsurface testing of multiple sites/features yielded numerous examples of cultural material, including volcanic glass flakes and shatter, charcoal fragments, groundstone, waterworn, fire cracked basalt, branch and waterworn coral, marine shell (*Cellana* sp., *Conus* sp., *Drupa* sp., *Nerita* sp., *Echinoidea* sp., *Cypraea* sp., *Strombina* sp., *Venus* sp., and *Cantharus* sp.), *kukui*, an unidentified seed, shark teeth, a mostly intact *lūheʻe* lure, and dog, rodent and fish bone. Additionally, human skeletal remains were identified during excavation of Sites 23683, 23684, and 23685.

All sites were assessed as significant under Criterion D, with eleven being recommended for no further work (Sites 23662 through 23669, 23679 and 23680, and 23682). Four of the sites were assessed as significant under both Criteria D and E and recommended for preservation (Sites 23681 and Sites 23683 through 23685). One of the sites was assessed as significant under Criteria A and D, and also recommended for preservation (Site 6302). Ten sites were recommended for data recovery (Sites 23670 through 23678 and 23686).

2003 Burial Treatment Plan:

Later in 2003, Rechtman Consulting, LLC prepared a *Burial Site Component of a Preservation Plan for Three Sites in the Proposed Hualālai Village Development Area (TMKs: 3-7-5-10:85 and 3-7-5-17:06) Waiʻaha Ahupuaʻa, North Kona District, Island of Hawaiʻi*. The 2003 Burial Treatment Plan was prepared for the three burial sites located within the Petition Area (Sites 23683 through 23685) identified during the 2003 AIS that were assessed as significant under Criteria D and E. All three sites consisted of square or rectangular stone platforms constructed of *ʻaʻā* and/or *pāhoehoe* boulders and cobbles. According to the 2003 AIS, unlike the other two burial sites that were determined to function solely as burial monuments, Site 23684 consisted of a platform and an attached enclosure, and it was concluded by the 2003 AIS that both features may have been utilized for habitation purposes prior to the internment of the deceased individual. Site 23683 was also previously subject to burial testing by the 2002 Burial Site Testing Report, but yielded negative results. As part of the fieldwork conducted during the 2003 AIS, a 1 x 1 meter test unit was excavated in the central interior portion of the platform, and the presence of a burial was confirmed. Similarly, single 1 x 1-meter test units were excavated in the central interior sections of the Site 23684 and Site 23685 platforms, yielding identical results. In the case of Sites 23684, pockets of deliberately and carefully cached branch coral were observed throughout the architectural layer, and cultural material (e.g., marine shell, coral, and waterworn pebbles) were observed in strata below the architectural layer. With respect to Site 23685, a possible hearth was identified, the remains of which included a scant amount of cultural materials including various marine shell, *wana* (sea urchin), and *kukui* (candlenut; *Aleurites mollucana*). Immediately following the discovery of human skeletal remains in all three test units, excavation ceased, the remains were stabilized and left in their original positions and were reburied (along with any identified cultural material and/or artifacts) using excavated soils, and the architectural layer was rebuilt on top of the burial as close to original specifications as possible.

The 2003 Burial Treatment Plan received approval from DLNR's State Historic Preservation Division (DLNR-SHPD). The approval called for Sites 23683, 23684 and 23685 to be preserved in place through the establishment of a minimum 20-foot permanent preservation easement buffer for each respective site. These preservation easements should be defined by stone walls (traditionally Hawaiian in appearance) constructed of dry-stacked local basalt boulders and cobbles and discretely core-filled with smaller cobbles. It was also suggested that inconspicuously situated narrow gated openings be incorporated into each easement wall to facilitate access for site maintenance and appropriate visitation by cultural and/or lineal descendants, and that appropriate native foliage be planted along the exterior perimeter of the easement walls. An additional 10-foot buffer zone beyond the 20-foot buffer was also set aside as a no construction zone as part of the plan for the installation of three interpretive/cautionary signs, one to be placed immediately adjacent to each respective walled preservation easement. Finally, the approval of the 2003 Burial Treatment Plan called for the preparation and submittal of a formal landscaping plan to the DLNR-SHPD, Burial Sites Program for approval, which would lay out measures that the respective sites be cleared of all non-native/non-Polynesian introduced vegetation prior to their reconstruction.

2007 Archaeological Data Recovery Report:

In 2007, Rechtman Consulting, LLC conducted an *Archaeological Data Recovery at Ten Sites on TMKs: 3-7-5-10:85 and 3-7-5-17:06, Wai'aha Ahupua'a, North Kona District, Island of Hawai'i* within the Petition Area. As shown below in *Table 4-5*, nine of the ten sites subject to the data recovery were inferred to have been utilized for habitation (four with permanent habitation and five with temporary habitation) and one was associated with agricultural use. All of the sites dated to the Precontact Period. The primary objectives of the data recovery centered around establishing the sequence of Precontact land use within the Petition Area and within the general *kula* lands of Kona, refining the precise nature of data recovery sites associated with habitation, and refining the age estimate and functional interpretation of the documented agricultural features. The 2007 Archaeological Data Recovery Report proposed that conducting data recovery of these sites would establish whether short-term habitation and associated opportunistic agriculture was indeed followed by recurrent habitation and associated formal agriculture, and finally by more consistent habitation with associated household gardens and animal pens.

The 2007 Archaeological Data Recovery Report included thorough redocumentation of the data recovery sites, the process of which included clearance of vegetation to assess the then-current conditions of the sites, site photography, and the illustration or update of existing site plan views from the 2003 AIS to show the placement of the excavation units, and subsurface testing to determine the presence or absence of buried cultural deposits. As part of the fieldwork, a total of 39 Excavation Units (EU) and 17 Test Units (TU) were excavated. These units ranged in configuration from 1 x 1 meters, 1 x 2 meters, and 2 x 2 meters, and generally, multiple units were excavated into each site. With respect to the habitation sites (Sites 23670 through 23678), there were a total of 22 EU and 7 TU excavated. For Site 23686, 17 EU and 10 TU were excavated. As a result of excavations, a wide assemblage of cultural material was collected, including intact and fragmented marine shell (e.g. *Cypraea*, sp., *Conus* sp., *Drupa* sp., *Cellana* sp., *Morula* sp., *Isognomon* sp., *Fimbria* sp., *Brachiodontes* sp., *Turbo* sp., *Nerita* sp., *Mitra* sp., *Terebra* sp., *Cantharus* sp., *Chama* sp., *Venus* sp., *Nassarius* sp., *Strombina*, sp., *Serpuloris variabilis*, *Thais* sp., *Cymatium* sp., *Fimbria* sp., and an unidentifiable bivalve fragment), echinoderms, a crustacean fragment, and both branch and waterworn coral pieces. Lithic assemblages identified during fieldwork included worked and unworked volcanic glass flakes and shatter, fire-cracked basalt, basalt flakes, waterworn and groundstone basalt fragments. Additionally, a variety of faunal remains were recovered including worked and unworked bones (e.g. rodent, pig, dog, cow, bird, and some which were unidentifiable) as well as bird, fish, dog, cow, and shark teeth. A variety of portable remains (artifacts) were also

recovered during data recovery excavations, including coral abraders, intact and fragmented echinoderm abraders, a fine-grained basalt adze fragment, a *lūheʻe* lure, an awl manufactured from unidentifiable materials, a bone awl, a .166 lead pellet, an iron horseshoe nail, a steel nail, a steel nut, rusted iron fragments, and fragments of brass buttons. Fragments of *kukui* (candlenut; *Aleurites moluccana)* and an unidentifiable seed and nut were also recovered during excavations, as were numerous charcoal samples: 17 of which were submitted for radiocarbon assaying.

Following the synthesis of field and laboratory results, it was proposed in the 2007 Archaeological Data Recovery Report that the data recovery sites were collectively representative of four relatively arbitrary time periods, which they assigned as Phases A through D, with each interpreted as more extensive than the one preceding: Phase A from A.D. 1400 to A.D. 1460, Phase B from A.D. 1460 to A.D. 1580, Phase C from A.D. 1580 to A.D. 1680, and Phase D from A.D. 1680 to A.D. 1850. Phase A occupation encompassed Site 23686 Features 247, 293, and 294; Phase B occupation pertained to Site 23676, Site 23673 Features A and B, and Site 23671; Phase C related to Site 23686 Features 250, 254, 282, and 289, possibly Site 23674, Site 23672 Features A and B, and potentially Site 23674; and Phase D occupation was concluded to be associated with nine excavated features, including Site 23675, Site 23670 Features A, B, and C, Site 23678, Site 23677 Features A and B, Site 23686 Feature 251, and potentially also the *kuaiwi* associated with Site 23686.

<u>2013 Preservation Plan:</u>

In 2013, Rechtman Consulting, LLC prepared a *Preservation Plan for SIHP Site 6032 and Site 23681 (TMKs: 3-7-5-10:085 and 3-7-5-17:006) Waiʻaha 1st Ahupuaʻa, North Kona District, Island of Hawaiʻi* for two sites (Sites 6032 and 23681) located within the Petition Area and initially documented during the 2003 AIS. The first preservation site identified by the 2013 Preservation Plan is a 340-meter-long section of the Kuakini Wall (Site 6302), which was likely constructed during Governor Kuakini's administration (A.D. 1820-1844), coinciding with the latter portion of Phase D occupation. Initially, the wall served to protect cultivated agricultural fields mauka of the wall from feral animals; however, according to the 2013 Preservation Plan, the function of the Kuakini Wall likely transformed over time, and in later years served primarily to protect coastal settlements situated makai of the wall. Site 6302 was assessed by the 2003 AIS as significant under Criteria A, C, and D, and was determined to be eligible for listing (but is not formally listed) in the National Register of Historic Places (NRHP). Previous preservation measures were centered primarily around avoidance and protection (conservation) of the site, although the 2013 Preservation Plan recommends provisions for stabilization/restoration, dismantling/restoration, and the installation of interpretive/cautionary signage at intervals around the twenty-foot permanent preservation easement buffer.

The second preservation site identified by the 2013 Preservation Plan consists of an agricultural *heiau* (Site 23681; shrine), which is a traditional ceremonial site referred to as *heiau hoʻoūluulu ʻai* or *heiau hoʻoūluulu ua* where Hawaiians would conduct rituals to ensure agricultural fertility and/or to induce rain. The proposed permanent preservation measures for Site 23681 are avoidance and protection (conservation), which are to be achieved through the establishment of a twenty-foot preservation easement buffer. The 2013 Preservation Plan recommends that this permanent buffer be marked by a stone wall (traditionally Hawaiian in appearance) constructed of dry-stacked local basalt boulders and cobbles and discretely core-filled with smaller cobbles, and recommends that an inconspicuously situated narrow gated opening be present to allow access for site maintenance and appropriate visitation.

2019 Dismantling/Restoration Plan:

In 2019, ASM Affiliates, Inc. prepared a *Dismantling/Restoration Plan for a Portion of the Kuakini Wall (SIHP 5-10-28-6302) TMKs: (3) 7-5-010:085 and (3) 7-5-017:006, Waiʻaha 1st Ahupuaʻa, North Kona District, Island of Hawaiʻi*. The 2019 Dismantling/Restoration Plan was prepared for the Kuakini Wall (Site 6302) located within the Petition Area and outlines measures to be followed during the process of dismantling and restoring collapsed portions of and three breaches in Site 6302. Refer to *Figures 4-8 and 4-9*.

DLNR-SHPD Review and Approval Status

The 2003 AIS received final acceptance from SHPD by letter dated November 17, 2003 (Log No. 2003.2356, Doc No. 0311PM04. The 2003 Burial Treatment Plan received final acceptance from SHPD by letter dated August 20, 2019 (Log No. 2019.01527, Doc No. 1908CJ001). In addition, the 2013 Preservation Plan received final acceptance from SHPD by letter dated June 19, 2014 (Log No. 2014.2843 and Doc No. 1406MV15).

ASM Affiliates, Inc. is in consultation with DLNR-SHPD regarding final acceptance of the 2007 Archaeological Data Recovery Report, which was originally submitted to SHPD in October 2007 and resubmitted on August 30, 2019. In addition, ASM Affiliates, Inc. will be submitting the 2019 Dismantling/Restoration Plan to DLNR-SHPD for review and acceptance.

To implement the 2013 Preservation Plan, the UNK Update includes planning for the construction of rock walls around the permanent preservation buffers of the identified burial and preservation sites, which would complete the implementation of the 2003 Burial Treatment Plan and 2013 Preservation Plan.

Table 4-5: Archaeological Sites Recorded (ASM Affiliates, Inc., 2020)					
Site No.	Formal Type	Functional Type	Age	Significance	Treatment
6302	Wall	Kuakini Wall	Historic	a, c, d	Preservation
23662	Enclosure	Ranching	Historic	d	No further work
23663	Wall	Ranching	Historic	d	No further work
23664	Wall	Ranching	Historic	d	No further work
23665	Wall	Landscape Marker	Historic	d	No further work
23666	Wall	Landscape Marker	Historic	d	No further work
23667	Wall	Landscape Marker	Historic	d	No further work
23668	Lava Blister	Temporary Habitation	Precontact	d	No further work
23669	Modified Outcrop	Temporary Habitation	Precontact	d	No further work
23670	Platform Complex	Permanent Habitation	Precontact	d	Data Recovery
23671	Platform	Temporary Habitation	Precontact	d	Data Recovery
23672	Enclosure Complex	Temporary Habitation	Precontact	d	Data Recovery
23673	Platform/Enclosure	Permanent Habitation	Precontact	d	Data Recovery
23674	Platform/Enclosure	Temporary Habitation	Precontact	d	Data Recovery
23675	Platform	Temporary Habitation	Precontact	d	Data Recovery
23676	Platform	Temporary Habitation	Precontact	d	Data Recovery
23677	Platform/Enclosure	Temporary Habitation	Precontact	d	Data Recovery
23678	Enclosure	Temporary Habitation	Precontact	d	Data Recovery
23679	Trail	Trail	Precontact	d	No further work
23680	Trail	Trail	Precontact	d	No further work
23681	Platform/Enclosure	Ceremonial	Precontact	d, e	Preservation
23682	Game Board	Game Board	Precontact	d	No further work
23683	Platform	Burial	Precontact	d, e	Preservation
23684	Platform/Enclosure	Burial	Precontact	d, e	Preservation
23685	Platform	Burial	Precontact	d, e	Preservation
23686	Complex	Agricultural	Precontact	d	Data Recovery

*SIHP site numbers are preceded by the State, Island, and U.S.G.S. Quad Prefix.

Figure 4-7: Photo of a Portion of the Kuakini Wall on the Petition Area (ASM Affiliates, Inc., 2020)

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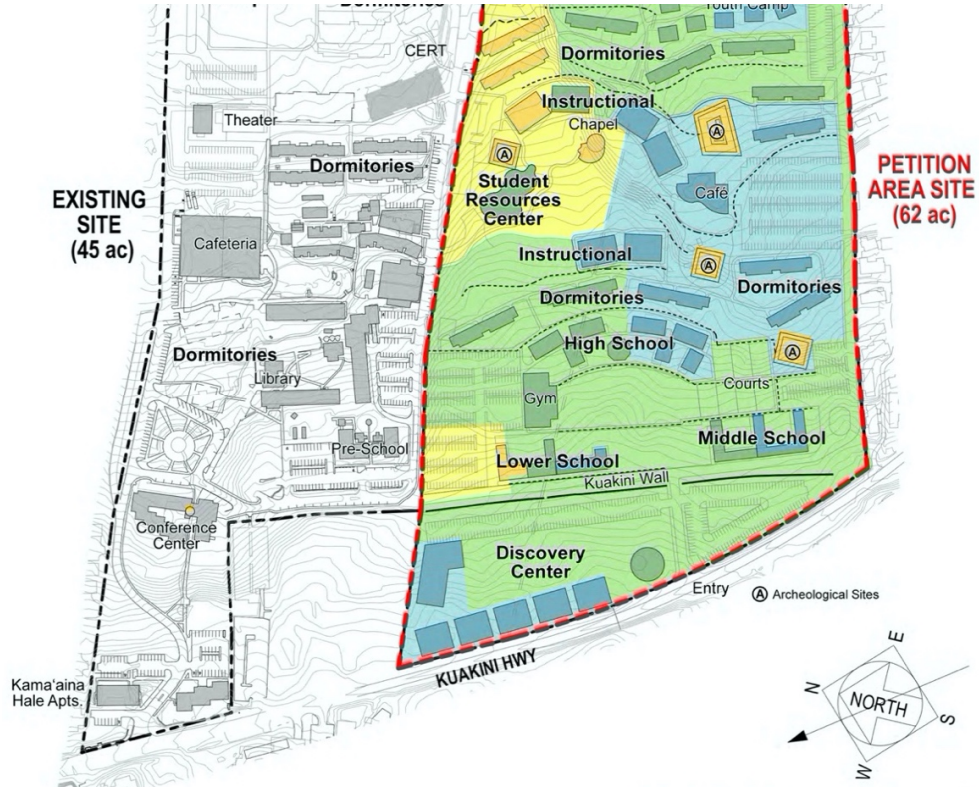

Figure 4-8: Archaeological, Preservation Plan, and Burial Sites

University of the Nations, Kona, Inc. 2020 Master Plan Update

4.16 Historical and Cultural Resources

2020 Cultural Impact Assessment:

As discussed above the 2020 Cultural Impact Assessment prepared by ASM Affiliates, Inc. is an update to a previous Cultural Impact Assessment conducted for the Petition Area by G70 in 2003. The methodology for the 2020 Cultural Impact Assessment was primarily based upon the following scope:

1. A review and summary of historical documentation for purposes of identifying potential traditional cultural properties, features, resources, beliefs, and practices within or near the Petition Area.
2. An analysis of information provided in archaeological reports and known oral traditions of areas near or within the Petition Area as a means of identifying traditional land use activities, cultural resources, and associative practices and beliefs.
3. Compilation and summary of information obtained from informal discussions and formal interviews with identified knowledgeable individuals regarding historic and traditional practices that are site-specific and inclusive of the ahupuaʻa of Waiʻaha.
4. A report that summarizes the information obtained from research conducted from which an evaluation of the potential cultural impacts related to the Petition Area will be provided. As necessary, recommendations to mitigate potential impacts will also be included.

As part of the 2020 Cultural Impact Assessment, various agencies and organizations (e.g., The Office of Hawaiian Affairs (OHA), Hawaiʻi Island Burial Council, Queen Liliʻuokalani Trust, etc.), community members, and cultural/lineal descendants with ties to Waiʻaha were contacted in order to identify traditional cultural properties, practices, and contemporary cultural uses associated with the Petition Area and surrounding lands. A total of thirty-four individuals were contacted for consultation based on their potential to provide intimate knowledge of Waiʻaha, in particular nā kupuna, nā kumu hula, and nā kua ʻāina. Twenty- one individuals responded to the request, although several declined to be interviewed, directed consultation to other individuals (besides themselves), or expressed that they did not have intimate knowledge of Waiʻaha.

According to the 2020 Cultural Impact Assessment, historical documentation indicates that as early as the 15th century during the reign of ʻEhukaimalino, the mokuoloko, the interior land district of Kona with its vast natural resources was a preferential location for royal residence, particularly between the regions of Lanihau to Keauhou. Numerous native oral traditions and foreign accounts illustrate that the ahupuaʻa of Waiʻaha was part of a larger and significant political and population center that was primarily sustained by a variety of dryland agricultural practices.

Waiʻaha was also a favored retreat for Emma Naea Rooke and her husband, Alexander Kalanikualiholihokekapu ʻIolani (Kamehameha IV), who acquired land in the upland regions of the ahupuaʻa, and their son Prince Albert Edward Kauikeaouli Leiopapa a Kamehameha. Upon the king's death in 1865, the Dowager Queen Emma purchased the land of Waiʻaha from the estate of her late husband, where she retained a home on the estate until her death in 1885. Several recorded oral accounts, one composed by the Queen herself, speak of the verdant uplands of Waiʻaha and the general Kona region in a poetic and honorific tribute through the compositions of *nā kanikau*, lamentation chants that marked the death of the young Prince Albert, who died at the age of four from acute appendicitis.

According to the 2020 Cultural Impact Assessment, sources suggest that by the late 1890s, much of the land within the Waiʻaha ahupuaʻa was utilized by the Kona Sugar Company to support the

sugarcane industry that was emerging within the region. Following the closure of the plantation and the mill site in 1926, much of the land within Waiʻaha, including a large portion of the Petition Area, was purchased by Manuel Gomes as part of an immense cattle and ranching operation.

The upper slopes of Waiʻaha are utilized today for ranching and diversified agriculture and coffee production. The coastal regions are part of an immense industry that is primarily focused on tourism with a wide variety of vacation timeshares and visitor accommodations, serving as a venue for major sporting events like the Billfish Tournament and Ironman Triathlon.

Ka Paʻakai O Ka ʻAina Analysis:

For the UNK Update, a *Ka Paʻakai O Ka ʻAina Analysis, University of the Nations, TMKs: (3) 7-5-010:085 and (3) 7-5-017:006. Waiʻaha 1st Ahupuaʻa, North Kona District, Island of Hawaiʻi* was completed in 2020 by ASM Affiliates, Inc. to examine the project's potential effect on or impairment of valued cultural, historical, or natural resources in the Petition Area, including traditional and customary native Hawaiian rights. The Ka Paʻakai Analysis is based on the Hawaiʻi Supreme Court's decision in Ka Paʻakai v. Land Use Commission, 94 Hawaiʻi 31, 74, 7 P.3d 1068, 1084 (2000), which sets forth the State's (and its agencies') duty to protect traditional and customary practices and resources under the Hawaiʻi Constitution. Under the Ka Pa'akai v. Land Use Commission, prior to an agency taking action that may impact native Hawaiian traditional and customary practices, the agency must make specific findings of fact and conclusions of law as to:

1. *The identity and scope of valued cultural, historical, or natural resources in the petition area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area;*
2. *The extent to which those resources, including traditional and customary native Hawaiian rights, will be affected or impaired by the proposed action; and*
3. *The feasible action, if any, to be taken by the LUC to reasonably protect native Hawaiian rights if they are found to exist. Const. Art. 12, § 7.* (94 Hawai'i 31, 7 P.3d 1068)

The Ka Paʻakai Analysis identifies the valued cultural, historical, and natural resources present within the Petition Area, and identifies the extent to which any traditional and customary native Hawaiian rights are, or have been, exercised. In addition, historical archival information was investigated, and prior cultural studies that included consultation and oral-historical interviews were reviewed and summarized by the Ka Paʻakai Analysis. Next, the Ka Paʻakai Analysis provides a discussion describing the extent to which the valued cultural, historical or natural resources and customary native Hawaiian rights will be impacted by the UNK Update. Finally, the Ka Paʻakai Analysis summarizes these findings and recommends feasible actions and mitigative measures that may be taken by the Land Use Commission to reasonably protect native Hawaiian rights, if they are found to exist within the Petition Area.

The previous archaeological studies conducted within the Petition Area have identified significant, valued cultural resources, including sites traditionally used for ceremonial, habitation, agricultural, burial, and transportation purposes. Although the 2020 Cultural Impact Assessment did not identify any specific past or ongoing traditional or customary practices occurring within the Petition Area, concerns were expressed by the consulted parties regarding the presence of burials on the Petition Area, the possibility of encountering additional *iwi kupuna* during development activities, and the potential effects that the proposed development would have on the ability of the descendent community to care for those ancestral remains. According to the Ka Paʻakai Analysis this concern is legitimate given that the proposed development will alter the traditional cultural landscape of the Petition Area and as a result have an effect on the valued cultural resources located therein. Such

landscape alteration also has the potential to adversely affect the ability of the descendant communities to access and care for their ancestral remains. As a part of the UNK Update, several measures have already been undertaken by U of N Kona to reasonably mitigate and protect the cultural resources located on the Petition Area and to ensure the rights of the descendant community to access and care for their *iwi kupuna* are not impinged. These mitigation measures included archaeological data recovery, and the establishment of permanent preservation easements with associated access rights for any identified lineal and cultural descendants to the three known burial sites, a *heiau*, and the Kuakini Wall. Also, at the recommendation of OHA, U of N Kona has agreed to preserve a portion of a historic trail across the Petition Area. According to the Ka Pa‘akai Analysis, if all of the conditions and measures (both interim and permanent) set forth in the 2003 Burial Treatment Plan and 2013 Preservation Plan are adhered to and implemented as part of the UNK Update, then there will be no anticipated adverse impacts to the three burial sites (Sites 23683, 23684, and 23685) and the two preservation sites (Sites 6302 and 23681). To further avoid potential impacts to valued cultural resources, the LUC can condition any approvals to include the recommended archaeological/cultural precautionary monitoring measures as additional mitigation during all ground-disturbing development activities. An expanded discussion on the Ka Pa‘akai Analysis will be evaluated in the Draft EIS, including any potential impacts and mitigative measures.

4.17 Visual Resources

The Hawai‘i County General Plan (2005) has identified the backdrop of Hualālai Volcano as the predominant visual attribute of the Kona region. Its steep green slopes can be viewed from the Kona coast, and from higher elevations spectacular vistas can be seen of the coastline, ocean, and horizon. The Keahuolu coastline and the Holualoa-Keauhou viewplane from Kuakini Highway going mauka and makai are other notable sites of natural beauty identified by the General Plan that are visible from the Petition Area. An expanded discussion on the visual resources will be evaluated in the Draft EIS, including any potential impacts and mitigative measures.

5.0 Potential Impacts and Mitigation Measures

The Draft EIS will include a description of the environment in the vicinity of the UNK Update as it exists before the action's commencement. Impacts to the natural and/or human environment for all phases of the UNK Update will be considered, along with indirect and cumulative impacts. Technical studies and investigations will describe existing conditions and provide an evaluation of potential impacts to the Petition Area's flora and fauna, archaeological and cultural resources within the area, water supply and traffic flow. Storm water drainage, infrastructure needs, and impacts to municipal services will also be analyzed in the forthcoming Draft EIS. Impacts will be described as short-term, long-term and cumulative.

5.1 Short-Term Impacts

Short-term impacts would occur during the construction period. Noise from demolition and construction equipment, dust from grading, erosion from grading and excavation are typical impacts. The ability to stage and store construction equipment and trucks on-site will help to minimize traffic impacts stemming from construction.

Short-term economic benefits anticipated during construction would include direct, indirect, and induced employment opportunities, which benefits would increase when multiplier effects are considered, although not at a level that would generate significant statewide economic expansion.

The Draft EIS will more specifically assess the probable short-term impacts. Construction-generated impacts will be minimized and mitigated through adherence to Best Management Practices (BMPs), National Pollutant Discharge Elimination System and construction permit requirements, and other relevant regulations. The types of BMPs and controls to be implemented during construction periods will be described in the forthcoming Draft EIS.

5.2 Long-Term Impacts

Long-term impacts are those probable changes that would occur following implementation of the UNK Update. Each environmental and human resource described in the Draft EIS will include a discussion of possible long-term impacts. Minimization and mitigation measures can be implemented to ensure no significant impacts will occur as a result of the UNK Update. The Draft EIS will more specifically assess the probable long-term impacts of the UNK Update.

5.3 Indirect and Cumulative Impacts

Cumulative effects or impacts are impacts that result from the incremental effects of an activity when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertake such other actions. Indirect impacts or secondary effects are impacts that are associated with an activity but do not result directly from the activity. Projects that exist or are planned in the region will be assessed for the potential to add to the direct and indirect (secondary) impacts of the UNK Update. The Draft EIS will more specifically assess the probable indirect and cumulative impacts of the UNK Update.

6.0 Land Use Plans, Policies, and Controls

The Draft EIS will discuss the UNK Update's consistency with applicable State and County land use plans, policies, principles and guidelines. The forthcoming Draft EIS will include an expanded discussion of the UNK Update's conformance with the following land use plans, policies and controls, which have initially identified as relevant to the UNK Update. The following list may be refined with input received in response to this EISPN.

6.1 Hawai'i State Plan

The Hawai'i State Plan, codified as Hawai'i Revised Statutes Chapter 226, establishes a statewide planning system that sets forth goals, objectives, policies, and priority directions to provide for wise use of Hawai'i's resources and guide the future long-range development of the State.

The Hawai'i State Plan establishes the following goals for the State:

- A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawai'i's present and future generations.
- A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.
- Physical, social, and economic well-being, for individuals and families in Hawai'i, that nourishes a sense of community responsibility, of caring, and of participation in community life.

The UNK Update is consistent with the following objectives and policies of the Hawai'i State Plan:

<u>§226-5: Objectives and Policies for Population:</u>

(a) Objectives: It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic and social objectives contained in this chapter.

(b) Policies:

(2) Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs and desires.

(3) Promote increased opportunities for Hawai'i's people to pursue their socio-economic aspirations throughout the islands.

<u>§226-6: Objectives and Policies for the Economy in General:</u>

(a) Objectives: Planning for the State's economy in general shall be directed toward achievement of the following objectives:

(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawai'i's people, while at the same time stimulating the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.

(2) A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands.

(b) Policies:
- *(3) Promote Hawai'i as an attractive market for environmentally and socially sound investment activities that benefit Hawai'i's people.*
- *(6) Seek broader outlets for new or expanded Hawai'i business investments.*
- *(7) Expand existing markets and penetrate new markets for Hawai'i's products and services.*
- *(9) Strive to achieve a level of construction activity responsive to, and consistent with, State growth objectives.*

<u>§226-8: Objectives and Policies for the Economy – Visitor Industry:</u>

(a) Objectives: Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawai'i's economy.

(b) Policies:
- *(6) Provide opportunities for Hawai'i's people to obtain job training and education that will allow for upward mobility within the visitor industry.*
- *(8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawai'i's cultures and values.*

<u>§226-10: Objectives and Policies for the Economy – Potential Growth and Innovative Activities:</u>

(a) Objectives: Planning for the State's economy with regard to potential growth and innovative activities shall be directed towards achievement of the objective of development and expansion of potential growth and innovative activities that serve to increase and diversify Hawai'i's economic base.

(b) Policies:
- *(1) Facilitate investment and employment in economic activities that have the potential to expand and diversify Hawai'i's economy, including but not limited to diversified agriculture, aquaculture, renewable energy development, creative media, health care, and science and technology-based sectors.*
- *(6) Expand Hawai'i's capacity to attract and service international programs and activities that generate employment for Hawai'i's people.*
- *(7) Enhance and promote Hawai'i's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts.*
- *(12) Develop, promote, and support research and educational and training programs that will enhance Hawai'i's ability to attract and develop economic activities of benefit to Hawai'i.*

<u>§226-11: Objectives and Policies for the Physical Environment – Land-Based, Shoreline, and Marine Resources:</u>

(a) Objectives: Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives:
- *(1) Prudent use of Hawai'i's land-based, shoreline, and marine resources.*
- *(2) Effective protection of Hawai'i's unique and fragile environmental resources.*

(b) Policies:
- *(1) Exercise an overall conservation ethic in the use of Hawai'i's natural resources.*
- *(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.*
- *(3) Take into account the physical attributes of areas when planning and designing activities and facilities.*
- *(4) Manage natural resources and environs to encourage their beneficial and multiple use*

without generating costly or irreparable environmental damage.

(6) Encourage the protection of rare of endangered plant and animal species and habitats native to Hawai‘i.

(8) Pursue compatible relationships among activities, facilities, and natural resources.

§226-12: Objectives and Policies for the Physical Environment – Scenic, Natural Beauty, and Historic Resources:

(a) Objectives: Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawai‘i's scenic assets, natural beauty, and multi-cultural/historical resources.

(b) Policies:

(1) Promote the preservation and restoration of significant natural and historical resources.

(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.

(4) Protect those special areas, structures and elements that are an integral and functional part of Hawai‘i's ethnic and cultural heritage.

(5) Encourage the design of developments and activities that complement the natural beauty of the islands.

§226-13: Objectives and Policies for the Physical Environment – Land, Air, and Water Quality:

(a) Objectives: Planning for the State's physical environment with regard to land, air, and water quality shall be directed toward achievement of the following objectives:

(1) Maintenance and pursuit of improved quality in Hawai‘i's land, air, and water resources.

(2) Greater public awareness and appreciation of Hawai‘i's environmental resources.

(b) Policies:

(2) Promote the proper management of Hawai‘i's land and water resources.

(6) Encourage design and construction practices that enhance the physical qualities of Hawai‘i's communities.

(7) Encourage urban developments in close proximity to existing services and facilities.

§226-21: Objectives and Policies for Socio-Cultural Advancement – Education:

(a) Objectives: Planning for the State's socio-cultural advancement with regard to education shall be directed towards achievement of the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations.

(b) Policies:

(1) Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups.

(2) Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.

(3) Provide appropriate educational opportunities for groups with special needs.

(4) Promote educational programs which enhance understanding of Hawai‘i's cultural heritage.

(5) Provide higher education opportunities that enable Hawai‘i's people to adapt to changing employment demands.

(7) Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning.

(8) Emphasize quality educational programs in Hawai‘i's institutions to promote academic excellence.

§226- 23: Objectives and Policies for Socio-Cultural Advancement – Leisure:

(a) Objectives: Planning for the State's socio-cultural advancement with regard to leisure shall be directed towards achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.

(b) Policies:

(1) Foster and preserve Hawai'i's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities.

(2) Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently.

(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.

(4) Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved.

(7) Provide adequate and accessible physical fitness programs to promote the physical and mental well-being of Hawai'i's people.

(8) Increase opportunities for appreciation and participation in the creative arts, including the literary, theatrical, visual, musical, folk, and traditional art forms.

(9) Encourage the development of creative expression in the artistic disciplines to enable all segments of Hawai'i's population to participate in the creative arts.

§226-25 Objective and Policies for Socio-Cultural Advancement—Culture:

(a) Objectives: Planning for the State's socio-cultural advancement with regard to culture shall be directed toward the achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawai'i's people.

(b) Policies:

(1) Foster increased knowledge and understanding of Hawai'i's ethnic and cultural heritages and the history of Hawai'i.

(2) Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawai'i's people and which are sensitive and responsive to family and community needs.

(4) Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawai'i's people and visitors.

§226-102: Overall Direction:

The State shall strive to improve the quality of life for Hawai'i's present and future population through the pursuit of desirable courses of action in seven major areas of statewide concern which merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice, quality education, principles of sustainability, and climate change adaptation.

6.2 Hawai‘i State Functional Plans

The Hawai‘i State Functional Plans implement the goals, objectives, policies and priority guidelines of the Hawai‘i State Plan. The Functional Plans provide the connection between State programs and State policy. Twelve functional plans have been adopted by the State Legislature, including in the areas of agriculture, conservation lands, education, energy, health, higher education, historic preservation, housing, recreation, tourism, transportation and water resources. The State Functional Plans are designed to address issues pertaining to physical resource needs and development. The functions and activities of the UNK Update are required to be in conformance with these functional plans, including the State Education Functional Plan.

6.3 Hawai‘i 2050 Sustainability Plan

The long-term strategy of the Hawai‘i 2050 Sustainability Plan is supported by its main goals and objectives of respect for culture, character, beauty, and history of the State’s island communities; balance among economic, community, and environmental priorities; and an effort to meet the needs of the present without compromising the ability of future generations to meet their own needs.

The Hawai‘i 2050 Sustainability Plan delineates five goals toward a sustainable Hawai‘i, accompanied by strategic actions for implementation and indicators to measure success or failure.

The goals and strategic actions that are pertinent to the UNK Update are as follows:

Goal One: Living sustainably is part of our daily practice in Hawai‘i Strategic Actions: Develop a sustainability ethic.

Goal Two: Our diversified and globally competitive economy enables us to meaningfully live, work, and play in Hawai‘i. Strategic Actions: *Develop a more diverse and resilient economy; support the building blocks for economic stability and sustainability.*

Goal Three: Our natural resources are responsibly and respectfully used, replenished, and preserved for future generations. Strategic Actions: *Provide greater protection for air, and land-, fresh water- and ocean-based habitats; conserve agricultural, open space and conservation lands and resources.*

Goal Four: Our community is strong, healthy, vibrant and nurturing, providing safety nets for those in need. Strategic Actions: *Provide access to diverse recreational facilities and opportunities.*

Goal Five: Our Kanaka Maoli and island cultures and values are thriving and perpetuated. Strategic Actions: *Honor Kanaka Maoli culture and heritage; Celebrate our cultural diversity and island way of life.*

6.4 Hawai‘i State Land Use District Boundaries

State Land Use Districts are established by the State Land Use Commission (LUC) pursuant to HRS Chapter 205. The basic intent of the law is to regulate the classification and uses of lands in the State in order to accommodate growth and development as needed, and to retain and protect important agricultural and natural resources areas. All State lands are classified as Urban, Rural, Agricultural, or Conservation, with consideration given to county general and development plans in determining the classification. The Petition Area is situated on lands designated as “Urban” by the LUC, pursuant to HRS Chapter 205 (Figure 6-1).

6.5 Hawai’i Coastal Zone Management Program

The Coastal Zone Management Program (CZMP) is a comprehensive nationwide program that establishes and enforces standards and policies to guide the development of public and private lands within the coastal areas. In the State of Hawai‘i, the CZMP is implemented through the State Coastal Zone Management Law codified in HRS Chapter 205A (State CZM Law). The State CZM Law’s objectives and policies address ten subject areas. These subject areas include recreational resources, historic resources, scenic and open space resources, coastal ecosystems, economic uses, coastal hazards, managing development, public participation, beach protection, and marine resources. Virtually all relate to potential development impacts on the shoreline, near shore, and ocean area environments. The State CZM Law charges each county with designating and regulating Special Management Areas (SMA) within the State’s coastal areas. Any “development,” as defined by the State CZM Law and county regulations, located within the SMA requires a SMA permit.

The Petition Area is not within the SMA as delineated by the County. However, HRS Chapter 205A requires all state and county agencies to enforce objectives and policies as set forth in HRS §205A-2.

The following objectives and policies of the State CZM Law are applicable to the UNK Update:

<u>RECREATIONAL RESOURCES</u>

Objective: *Provide Coastal Recreational Opportunities Accessible to the Public.*

Policies:

(A) Improve coordination and funding of coastal recreation planning and management; and

(B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:

i. Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;

ii. Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites and sandy beaches, when such resources will be unavoidable damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;

iii. Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;

iv. Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;

v. Encouraging expanded public recreational use of county, state, and federally owned or controlled shoreline lands and waters having recreational value;

vi. *Adopting water quality standards and regulating point and non-point sources of pollution to protect and where feasible, restore the recreational value of coastal waters;*
vii. *Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, artificial reefs for surfing and fishing; and*
viii. *Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use Commissions, board of land and natural resources, county planning commissions, and crediting such dedication against the requirements of Section 46-6.*

HISTORIC RESOURCES

Objective: *Protect, preserve and, where desirable, restore those natural and man-made historic and pre-historic resources in the coastal zone management area that are significant in Hawai'i and American history and culture.*

Policies:
(A) Identify and analyze significant archaeological resources;
(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and
(C) Support state goals for protection, restoration, interpretation and display of historic resources.

SCENIC AND OPEN SPACE RESOURCES:

Objective: *Protect, preserve and where desirable, restore or improve the quality of coastal scenic and open space resources.*

Policies:
(A) Identify valued scenic resources in the coastal zone management area;
(B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;
(C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and
(D) Encourage those developments which are not coastal dependent to locate in inland areas.

COASTAL ECOSYSTEMS

Objective: *Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.*

Policies:
(A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;
(B) Improve the technical basis for natural resource management;
(C) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;
(D) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and
(E) Promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine ecosystems and prohibit land and water uses which violate state water quality standards.

ECONOMIC USES

Objective: *Provide public or private facilities and improvements important to the State's economy in suitable locations.*

Policies:

(A) Concentrate coastal dependent development in appropriate areas;

(B) Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and

(C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:

(i) Use of presently designated locations is not feasible;

(ii) Adverse environmental effects are minimized; and

(iii) The development is important to the State's economy.

COASTAL HAZARDS

Objective: *Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.*

Policies:

(A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;

(B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards;

(C) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and

(D) Prevent coastal flooding from inland projects.

MANAGING DEVELOPMENT

Objective: *Improve the development review process, communication, and public participation in the management of coastal resources and hazards.*

Policies:

(A) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;

(B) Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and

(C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life-cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

PUBLIC PARTICIPATION

Objective: *Stimulate public awareness, education, and participation in coastal management.*

Policies:

(A) Promote public involvement in coastal zone management processes;

(B) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and

(C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

BEACH PROTECTION

Objective: Protect beaches for public use and recreation.

Policies:

(A) Locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion;
(B) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities;
(C) Minimize the construction of public erosion-protection structures seaward of the shoreline;
(D) Prohibit private property owners from creating a public nuisance by inducing or cultivating the private property owner's vegetation in a beach transit corridor; and
(E) Prohibit private property owners from creating a public nuisance by allowing the private property owner's unmaintained vegetation to interfere or encroach upon a beach transit corridor.

MARINE RESOURCES

Objective: Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

Policies:

(A) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;
(B) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;
(C) Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;
(D) Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and
(E) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

6.6 County of Hawai'i General Plan

The County of Hawai‘i General Plan is the policy document for the long-range comprehensive development of the Island of Hawai‘i. The General Plan is intended to guide the pattern of future development in the County based on long-term goals, while identifying and promoting the visions, values, and priorities important to its people. Specific County of Hawai‘i General Plan goals and policies that are pertinent to the UNK Update are as follows:

ECONOMIC

Goals:

(A) Provide residents with opportunities to improve their quality of life through economic development that enhances the County's natural and social environments.
(B) Economic development and improvement shall be in balance with the physical, social and cultural environments of the Island of Hawai‘i.

Policies:

a. Assist in the expansion of the agricultural industry through the protection of important agricultural lands, development of marketing plans and programs, capital improvements, and continued cooperation with appropriate State and Federal agencies.

b. Encourage the expansion of research and development industry by working with and supporting the University of Hawai‘i at Hilo and West Hawai‘i, the Natural Energy Laboratory at Hawai‘i Authority (NELHA) and other agencies' programs that support sustainable economic development in the County of Hawai‘i.

f. Support all levels of educational, employment and training opportunities and institutions.

ENVIRONMENTAL QUALITY

Goals:

(A) Define the most desirable use of land with the County that achieves an ecological balance providing residents and visitors the quality of life and an environment in which the natural resources of the island are viable and sustainable.

(B) Maintain and, if feasible, improve the existing environmental quality of the land.

Policies:

a. Take positive action to further maintain the quality of the environment.

k. Require implementation of the management measures contained in Hawai‘i's Coastal Nonpoint Pollution Control Program as a condition of land use permitting.

FLOODING AND OTHER NATURAL HAZARDS

Goals:

(A) Protect human life.

(B) Prevent damage to man-made improvements.

(C) Control pollution.

(D) Prevent damage from inundation.

(E) Reduce surface water and sediment runoff.

(F) Maximize soil and water conservation.

Policies:

g. Development-generated runoff shall be disposed of in a manner acceptable to the Department of Public Works and in compliance with all State and Federal laws.

m. Encourage grassed shoulder and swale roadway design where climate and grade are conducive.

n. Develop drainage master plans from a watershed perspective that considers non-structural alternatives, minimizes channelization, protects wetlands that serve drainage functions, coordinates the regulation of construction and agricultural operation, and encourages the establishment of floodplains as public green ways.

p. Where applicable, natural drainage channels shall be improved to increase their capacity with special consideration for the practices of proper soil conservation, and grassland and forestry management.

q. Consider natural hazards in all land use planning and permitting.

r. Discourage intensive development in areas of high volcanic hazard.

HISTORIC SITES

Goals:

(A) Protect, restore, and enhance the sites, buildings, and objects of significant historical and cultural importance to Hawai‘i.

(B) Appropriate access to significant historical sites, buildings, and objects of public interest should be made available.

(C) Enhance understanding of man's place on the landscape by understanding the system of ahupua‘a.

Policies:

a. *Agencies appropriate ordinances, either public or private, pursuing knowledge about historic sites should keep the public apprised of projects.*
c. *Require both public and private developers of land to provide historical and archaeological surveys and cultural assessments, where appropriate, prior to the clearing or development of land when there are indications that the land under consideration has historical significance.*
d. *Public access to significant historic sites and objects shall be acquired, where appropriate.*
e. *Embark on a program of restoring significant historic sites on County lands. Assure the protection and restoration of sites on other public lands through a joint effort with the State.*
f. *Encourage the restoration of significant sites on private lands.*
g. *Collect and distribute historic sites information of public interest and keep an inventory of sites.*
m. *All new historic sites placed on the State or Federal Register after the adoption of the General Plan shall be included in the General Plan.*
n. *Consider requiring Cultural Assessments for certain developments as part of the rezoning process.*
o. *Recognize the importance of certain natural features in Hawaiian culture by incorporating the concept of "cultural landscapes" in land use planning.*

NATURAL BEAUTY

Goals:

(A) *Protect, preserve and enhance the quality of areas endowed with natural beauty, including the quality of coastal scenic resources.*
(B) *Protect scenic vistas and view planes from becoming obstructed.*
(C) *Maximize opportunities for present and future generations to appreciate and enjoy natural and scenic beauty.*

Policies:

a. *Increase public pedestrian access opportunities to scenic places and vistas.*
e. *Develop standard criteria for natural and scenic beauty as part of design plans.*
f. *Consider structural setback from major thoroughfares and highways and establish development and design guidelines to protect important view planes.*
h. *Protect the views of areas endowed with natural beauty by carefully considering the effects of proposed construction during all land use reviews.*

NATURAL RESOURCES AND SHORELINE

Goals:

(A) *Protect and conserve the natural resources from undue exploitation, encroachment and damage.*
(B) *Provide opportunities for recreational, economic, and educational needs without despoiling or endangering natural resources.*
(C) *Protect and promote the prudent use of Hawai'i's unique, fragile, and significant environmental and natural resources.*
(D) *Protect rare or endangered species and habitats native to Hawai'i.*
(E) *Protect and effectively manage Hawai'i's open space, watersheds, shoreline, and natural areas.*
(F) *Ensure that alterations to existing land forms, vegetation, and construction of structures cause minimum adverse effect to water resources, and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation, or failure in the event of an earthquake.*

Policies:

a. *Require users of natural resources to conduct their activities in a manner that avoids or minimizes adverse effects on the environment.*
h. *Encourage public and private agencies to manage the natural resources in a manner that avoids or minimizes adverse effects on the environment and depletion of energy and natural resources to the fullest extent.*
i. *Encourage an overall conservation ethic in the use of Hawai'i's resources by protecting, preserving, and conserving the critical and significant natural resources of the County of Hawai'i.*
p. *Encourage the use of native plants for screening and landscaping.*
r. *Ensure public access is provided to the shoreline, public trails and hunting areas, including free public parking where appropriate.*
w. *Implement Council Resolution Nos. 330-96 and 58-97 in land use approvals.*

LAND USE

The County of Hawai'i General Plan's accompanying Land Use Pattern Allocation Guide (LUPAG) Map establishes the future land use patterns for the Island of Hawai'i, including the community of Kailua-Kona. The LUPAG designates the Petition Area "Medium Density Urban" (*Figure 6-2*). This designation includes "*village and neighborhood commercial and single family and multiple family residential and related functions (3-story commercial; multiple family residential – up to 35 units per acre)*."

6.7 Kona Community Development Plan

The Hawai'i County General Plan requires that Community Development Plans be adopted by the County Council for each judicial district in the County. The Kona Community Development Plan (Kona CDP), which the County Council adopted in September 2008, covers the judicial districts of North and South Kona. The Kona CDP establishes a framework for future growth by identifying the County's major policies concerning the type and location of future development. The Kona CDP delineates urban and rural areas where future growth should be directed. Most of the future growth in Kona will be directed to the defined "Urban Area" and compact villages located along proposed transit routes or Transit-Oriented Development zones. The "Rural Area" consists of the lands outside of the Kona Urban Area where limited future growth should be directed to the existing rural towns and villages in a way that revitalizes and enhances the existing rural lifestyle and culture of those communities (Figure 6-3).

The Kona CDP articulates the area residents' vision for Kona's future: *A more sustainable Kona characterized by a deep respect for the culture and the environment and residents that responsively and responsibly accommodate change through an active and collaborative community*.

In order to achieve this vision, the Kona CDP presents guiding principles that are the foundation for the goals, objectives, policies, and implementation actions for eight thematic "elements": 1) transportation; 2) land use; 3) environmental resources; 4) cultural resources; 5) housing; 6) public facilities, infrastructure and services; 7) energy; and 8) economic development.

Specific Kona CDP guiding principles, goals, objectives, and policies most applicable to the UNK Update are as follows:

GUIDING PRINCIPLES

1. *Project Kona's natural resources and culture.*
2. *Provide connectivity and transportation choices.*
3. *Provide housing choices.*
4. *Provide recreation opportunities.*
5. *Direct future growth patterns toward compact villages, preserving Kona's rural, diverse, historical character.*
6. *Provide infrastructure and essential facilities concurrent with growth.*
7. *Encourage a diverse and vibrant economy emphasizing agriculture and sustainable economies.*
8. *Promote effective governance.*

LAND USE

Objective LU-1: Overall Growth Pattern. *To identify areas where higher intensity growth areas should occur and areas where the rural character and open space along the shoreline should be preserved.*

- ***Policy LU-1.2: Urban Area.*** *The majority of future growth in Kona shall be directed to the Kona UA shown on the Official Kona Land Use Map, which spans from the Kona International Airport to Keauhou subject to the policies set forth under Objective LU-2.*
- ***Policy LU-1.4: Consistency with LUPAG.*** *The current LUPAG accommodates the vision and needs for the Kona CDP area planning horizon and should be amended only for compelling reasons. Any rezoning application shall be consistent with the LUPAG.*

ENVIRONMENTAL RESOURCES

Objective ENV-1: Managing Impacts. *In order to minimize impacts on the land, make use of best management planning practices for any land-based endeavor by balancing public and private rights, and taking advantage of an ever-improving knowledge of resource sensitivity and natural processes.*

- ***Policy ENV-1.5: Sensitive Resources****. In the context of Kona's ecology and history, the following natural and cultural resources shall be considered sensitive and therefore shall be inventoried, as part of any permit application to the County Planning Department.*
    - *Critical habitat areas as identified by the U.S. Fish and Wildlife or County General Plan;*
    - *Predominantly native ecosystems, which may not be considered endangered but are valued because of their nearly pristine condition;*
    - *Anchialine ponds subject to a management Program addressed in Policy ENV-1.10: Non- Degradation of Anchialine Ponds;*
    - *High-level groundwater recharge area which shall initially be defined as all lands mauka of the 1,500 foot elevation and which may be refined by the Kona Mauka Watershed Management Program;*
    - *Historic trails;*
    - *Archaeological and historic sites subject to protection under HRS Chapter 6E; and,*
    - *Enhanced Shoreline Setback (see Policy LU-1.5).*

CULTURAL RESOURCES

Objective CR-1: Community-Based Program. *Develop a community-based program to evaluate and to protect Kona's cultural resources. Kona is rich with historic and cultural resources, but organized, proactive processes to provide stewardship for these resources are lacking.*

Objective CR-2: Funding of Kona Historic Resources Programs. *In addition to budgeting general fund revenues, the County of Hawai‘i shall seek and participate in programs that can provide resources serving to protect and enhance Kona's historic resources.*

Objective CR-3: Preservation of Kanaka Maoli Culture and Island Values. *Ensure that our Kanaka Maoli and island values and cultures are preserved and perpetuated.*

- ***Policy CR-3.1: Honor Kanaka Maoli culture and heritage****. The Kanaka Maoli culture is the foundation of Hawai‘i's living culture. We must ensure that the Kanaka Maoli people are supported and that this part of our culture is perpetuated. The success of this endeavor will ensure that the way of the Kanaka Maoli will guide our actions and behaviors in the years ahead.*
- ***Policy CR-3.2: Preserve and perpetuate our Hawaiian and island cultural values by celebrating our cultural diversity and island way of life****. Our diversity likewise defines us. Ensuring that our cultural practices flourish through language, dance, song, and art is crucial to sustaining who we are as a people. We must protect and nurture all aspects of our diverse history, traditions and cultures.*
- ***Policy CR-3.3: Enable Kanaka Maoli and others to pursue traditional Kanaka Maoli lifestyles and practices.*** *We must provide opportunities to those who want to pursue and perpetuate the way of the Kanaka Maoli.*
- ***Policy CR-3.4: Provide support for subsistence-based businesses and economies****. We must create opportunities for the Kanaka Maoli practice of subsistence-based businesses and economies, and remove the hurdles to their start-ups and development. Such traditional cultural practices are an economic alternative to Western forms of trade and commerce. Subsistence fishing, gathering, hunting and farming are examples of subsistence-based economies that are viable.*
- ***Policy CR-3.5: Ahupua‘a Resource and Management.*** *Integrate the values and principles of the traditional ahupua‘a resource and management systems as a basis for a sustainable Hawai‘i.*

ECONOMIC DEVELOPMENT

Objective ECON-1: Strategic Public Facilities and Business Opportunities as Economic Stimuli.
To optimize the potential of certain public facilities and policies to stimulate ancillary economic growth that is desirable because they are environmentally clean, diversify the economy (i.e., not visitor- dependent), pay decent wages, and demand skills and intellect that challenge Kona's existing and upcoming workforce.

6.8 Kailua-Kona Master Plan

The Kailua-Kona Master Plan was adopted in 1994 to help advise the Hawai‘i County Planning Director and guide urban design in the Kailua Village area. The Kailua Village planning area is defined by the "Kailua Village Special District," as described in Chapter 25 of the County of Hawai‘i Code (Zoning). The Kailua-Kona Master Plan defines goals, objectives and urban design guidelines for the Kailua Village Special District, including a designated land use master plan and urban design recommendations intended to preserve and enhance the "Village Core" and set reasonable limits on the spread of resort and commercial development. The Petition Area is located within the boundaries of the "Kailua Village Special District" and defined as "Low-Density Residential" by the Kailua-Kona Master Plan. The UNK Update is required to be consistent with the goals, objectives, and design guidelines of the Kailua-Kona Master Plan and required to obtain Plan Approval, issued by the Kailua Village Design Commission and Hawai‘i County Planning Department.

6.9 County of Hawai'i Zoning

The zoning regulations for the County of Hawai‘i are prescribed in Chapter 25 of the Hawai‘i County Code and applied and administered within the framework of the Hawai‘i County General Plan. Under the Zoning Code, various zoning districts are established to regulate the type of development and permitted uses of property and are depicted on zoning district maps. Most of the Petition Area is currently zoned A-1a (Agricultural District, one-acre minimum lot size) and a portion of the Petition Area is split zoned RD-3.75 and RS-7.5 (Residential District) (*Figure 6-4*). A change in zoning application with the County will be required for approval from A-1a to RM-4 (Multiple-Family Residential) or possibly RCX (Residential–Commercial Mixed Use) or CV (Village Commercial) prior to plan approval(s) and issuance of building permits. U of N Kona is also considering establishing Project District zoning for the UNK Update, which would provide flexibility in relocating elements within the Project District.

6.10 County of Hawai'i Water Use and Development Plan Update, Keauhou Aquifer System

The primary objective of the County of Hawai‘i Water Use and Development Plan (HWUDP) is to set forth the allocation of water to land use. As required by the Hawai‘i Administrative Rules (HAR) Title 13, Chapter 170, Hawai‘i Water Plan, each of the four counties is required to prepare a Water Use and Development Plan to include, but not be limited to the following:

1. *Status of county water and related land development including an inventory of existing water uses for domestic, municipal, and industrial users, agriculture, aquaculture, hydropower development, drainage, reuse, reclamation, recharge, and resulting problems and constraints;*
2. *Future land uses and related water needs; and*
3. *Regional plans for water developments including recommended and alternative plans, costs, adequacy of plans, and relationship to the water resource protection plan and water quality plan.*

The County adopted by ordinance the *Water Use and Development Plan Update* dated August 2010 and the Commission on Water Resource Management granted approval in December 2011. The Keauhou Aquifer System Area (ASYA) was identified to be considered for further evaluation and detailed assessment. The *Keauhou Aquifer System, Hawai‘i Water Use and Development Plan Update (*HWUDP Keauhou Update*)*, dated March 2017, now guides the County in an integrated approach to land use planning and water resource development and provides an estimate of anticipated future water demand projections based on County land use/zoning policies and water use rates for the Keauhou ASYA.

The HWUDP Keauhou Update promotes overall themes common to several other HWUDP components:

- *Public Trust Doctrine – the State holds ownership over public water resources as a trustee for the benefit of the people of the State.*
- *Water is a most precious resource, shall be used wisely and conserved, not wasted.*
- *The highest quality water shall be used for the public's highest beneficial uses.*

- *Lower quality water (e.g. recycled water, surface water, brackish water) should be used whenever feasible.*

Specific recommendations for the *Keauhou ASYA* are as follows:

1. *Development of new ground water well sources is encouraged in areas within the high-level aquifer generally from the vicinity of the HDWS Queen Lili‘uokalani Trust Deepwell extending south into the Kealakekua AYSA.*
2. *Continue studies of the ground water hydrology in the Keauhou ASYA, particularly the mid-elevation deep water source, which potentially could be a long-term solution.*
3. *Water purveyors are encouraged to assist in the development of non-potable water resource enhancement measures that do not involve ground water, such as recycled water, to satisfy non-potable demands. This may reduce reliance on ground water sources.*
4. *State and County agencies and private entities with water interests in the Keauhou ASYA are encouraged to participate and/or coordinate with the Three Mountain Alliance major landowners (KS, DOFAW and NPS) to assist in the preservation and restoration of watersheds in the Keauhou ASYA which will ultimately protect and potentially augment the ground water resources.*
5. *State and County agencies are encouraged to develop and implement ground water well protection initiatives and to participate in the State of Hawai‘i Department of Health, Safe Drinking Water Branch (SDWB) Wellhead Protection Financial Assistance Program.*
6. *County of Hawai‘i, Department of Water Supply (HDWS) will continue to work with ‘Aha Moku to ensure that its proposed source development strategies are properly vetted for Traditional and Customary Native Hawaiian Rights (T&C) issues.*

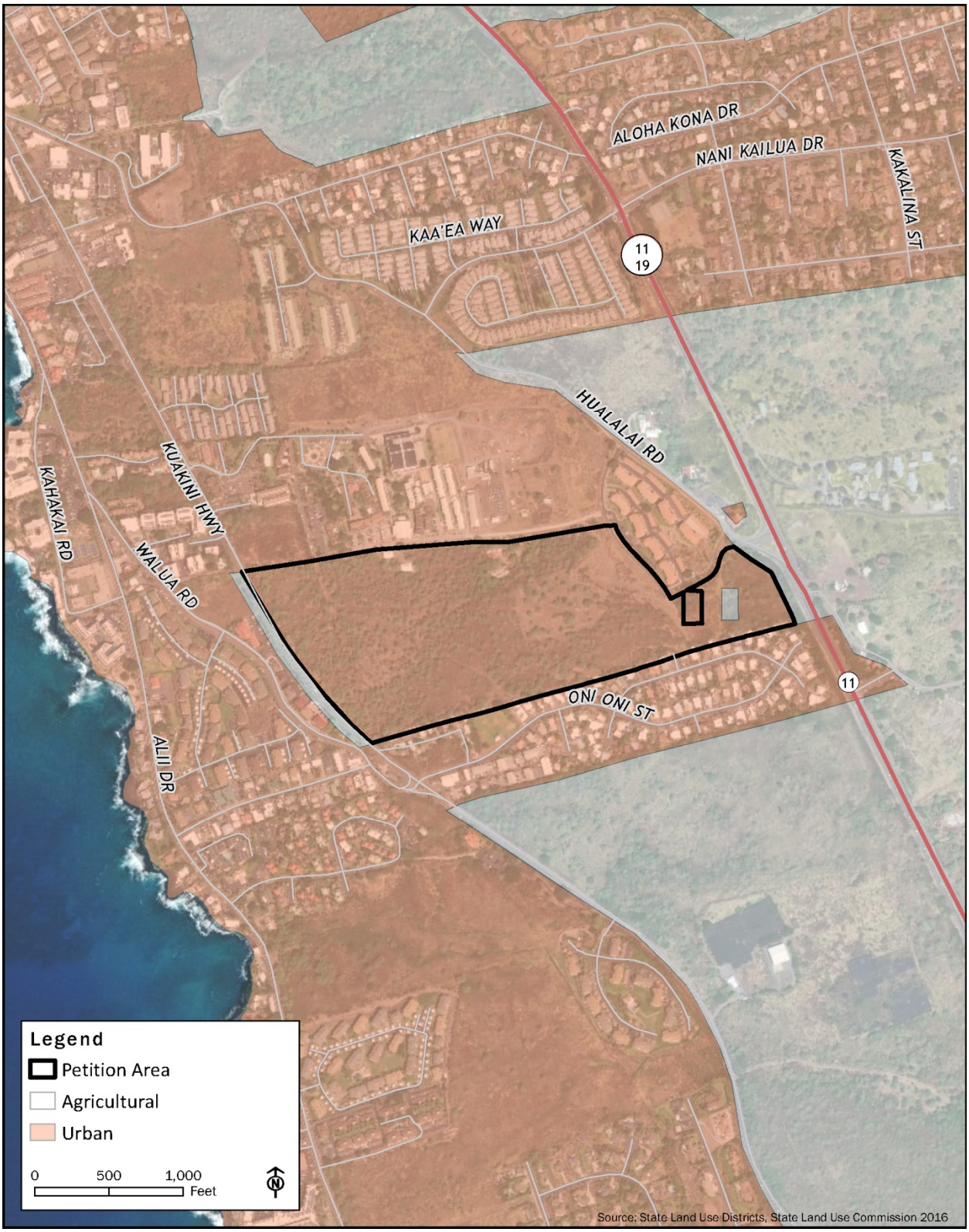

Figure 6-1: State Land Use District Designation Map

University of the Nations, Kona, Inc. 2020 Master Plan Update

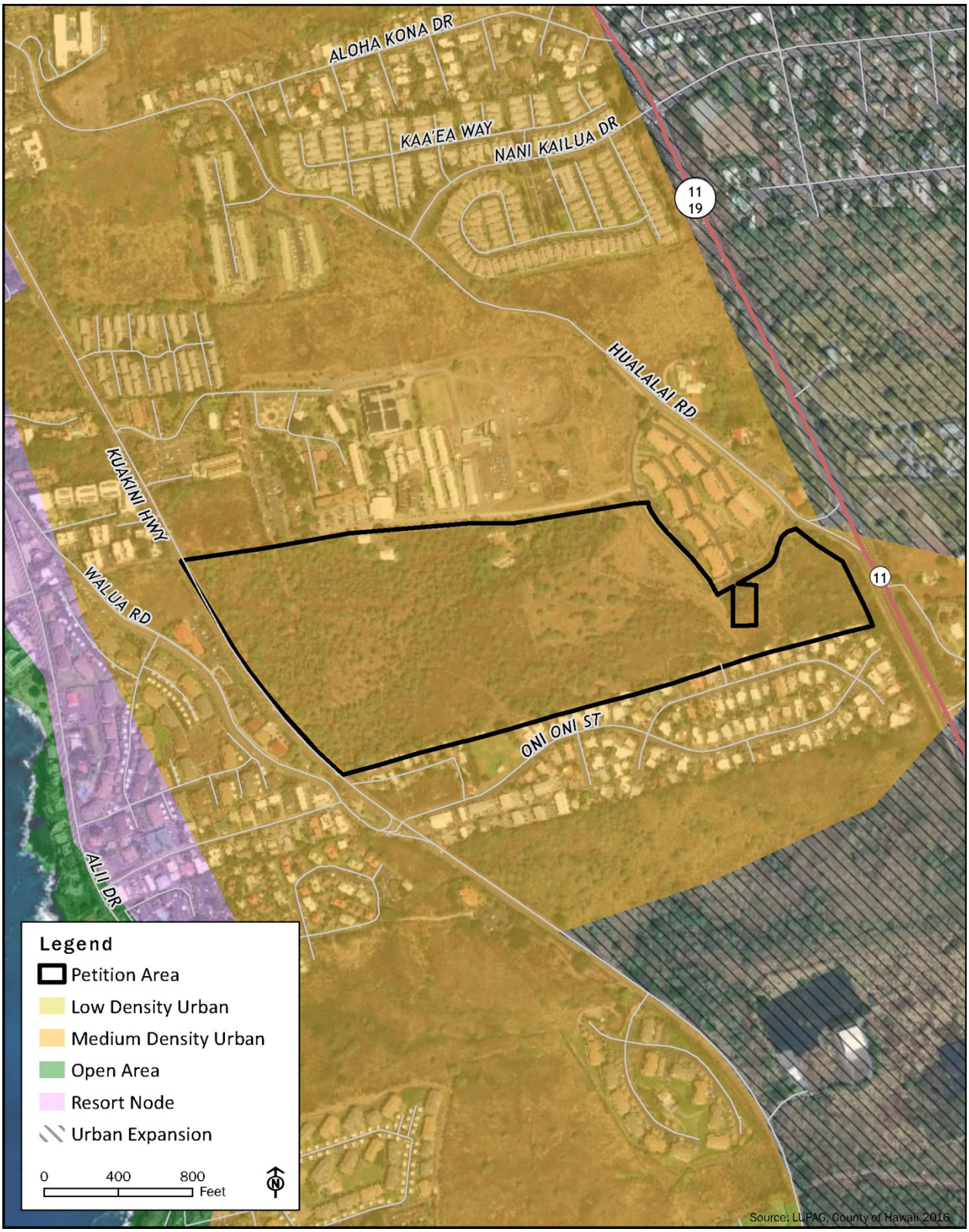

Figure 6-2: Land Use Pattern Allocation Guide (LUPAG) for Island of Hawai'i

University of the Nations, Kona, Inc. 2020 Master Plan Update

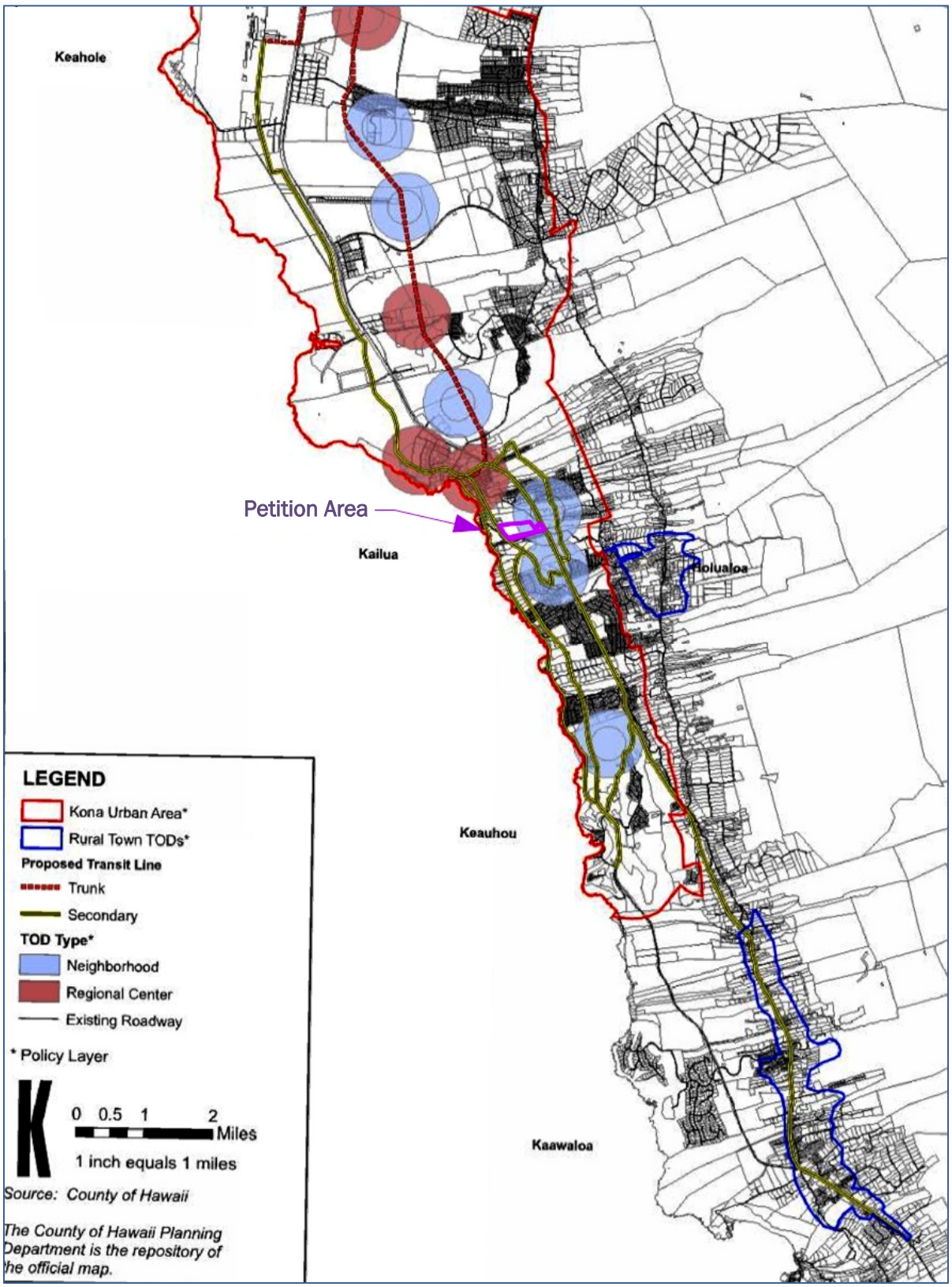

Figure 6-3: Kona Community Development Plan, Land Use Map

Figure 6-4: County of Hawai'i Zoning Map

University of the Nations, Kona, Inc. 2020 Master Plan Update

7.0 Determination and Rationale

This EISPN was prepared in support of U of N Kona's Motion to Amend, which was filed with the LUC to allow for the implementation and development of the UNK Update on the Petition Area. Under HRS §343-5, the UNK Update triggers environmental review under HRS Chapter 343 because it involves the use of public lands associated with utility and infrastructure improvements within a County of Hawai'i public roadway.

Often the environmental review process begins with the preparation of a draft environmental assessment (EA) and concludes in one of two ways. If the approving agency determines that a proposed action is not likely to have a significant effect on the environment, it issues a "finding of no significant impact" (FONSI) and directs the applicant to file the FONSI and a final EA with OEQC. If, on the other hand, the approving agency determines that a proposed action may have a significant effect, it instructs the applicant to prepare an EISPN and complete the environmental review process through the preparation and processing of an EIS.

However, as a result of the Hawai'i State Legislature's passage of Act 172 in 2012, an approving agency may authorize an applicant to proceed directly to the preparation of an EISPN where the agency determines, through its judgment and experience, that an EIS is likely to be required. HRS §343-5(3)(e) provides that: "[I]f the agency determines, through its judgment and experience, that an environmental impact statement is likely to be required, the agency may choose not to prepare an environmental assessment and instead shall prepare an environmental impact statement that begins with the preparation of an environmental impact statement preparation notice as provided by rules." HAR §11-200.1-14(d) similarly permits an approving agency to authorize an applicant to proceed directly to the preparation of an EISPN where the agency determines, through its judgment and experience, that an EIS is likely to be required.

To determine whether a proposed action may have a significant effect on the environment, and therefore require an EIS, an agency must review the proposed action under the significance criteria set forth in HAR §11-200.1-13(b). In most instances, a proposed action will be determined to have a significant effect or impact on the environment if it is anticipated to cause one or more of the following:

(1) Irrevocably commit a natural, cultural, or historic resource;
(2) Curtail the range of beneficial uses of the environment;
(3) Conflict with the State's environmental policies or long-term environmental goals established by law;
(4) Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State;
(5) Have a substantial adverse effect on public health;
(6) Involve adverse secondary impacts, such as population changes or effects on public facilities;
(7) Involve a substantial degradation of environmental quality;
(8) Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions;
(9) Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat;
(10) Have a substantial adverse effect on air or water quality or ambient noise levels;

(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;
(12) Have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in county or state plans or studies; or
(13) Require substantial energy consumption or emit substantial greenhouse gases.
HAR §11-200.1-13(b).

U of N Kona is pursing the UNK Update to accommodate its future growth projected into three (3) phases over the next 30 years. As discussed in Section 2.2, for Phase I, U of N Kona's enrollment is projected to increase to 1,500 students and its FTE staff is projected to increase to 450; for Phase II, enrollment is projected to increase to 2,250 students and FTE staff is projected to increase to 675; and for Phase III, enrollment is projected to increase to 3,000 students and FTE staff is projected to increase to 900. Given these projected increases in student enrollment and FTE staff, UNK's proposed campus expansion could result in secondary impacts, such as population changes or effects on public facilities. Therefore, the LUC has determined, through its judgment and experience, that that an EIS is likely to be required and has directed U of N Kona to initiate the HRS Chapter 343 environmental review process through the preparation of this EISPN.

8.0 Public Scoping Process

Pursuant to HAR §11-200.1-23, the public scoping process provides for public and agency input through outreach and a public comment period. Scoping serves as an opportunity to obtain input from the community, agencies and other stakeholders regarding the issues and resources they would like to see addressed and analyzed throughout the EIS process.

Publication of this EISPN in OEQC's *The Environmental Bulletin* started a 30-day public review and comment period, within which agencies, groups and individuals have an opportunity to make written comments regarding potential environmental effects from the development and implementation of the UNK Update. UNK will respond to all substantive comments (defined as those pertaining to the scope of the EIS), and all comments and U of N Kona's responses will be included in the Draft EIS. Information collected during the scoping process will be incorporated into the EIS to help to identify important issues and provide guidance.

HAR § 11-200.1-23 also requires a public scoping meeting to be held during the 30-day EISPN comment period. However, due to public health concerns from the on-going COVID-19 pandemic, in-person agency and public meetings will not be held. Opportunities for public input will be facilitated through an EIS Scoping Virtual Site, where presentations on the project can be viewed and oral public comments can be submitted. Notification of the EIS Scoping Virtual Site was published and announced with the publication of this EISPN and in local news media outlets.

9.0 Agencies and Parties Consulted

The following government agencies, community associations, elected officials and individuals will receive a copy of this EISPN for review and comment on the project. Comments received will be incorporated into the preparation of the Draft EIS.

Table 9-1: Consulted Parties
Federal Agencies
U.S. Department of the Interior • U.S. Fish and Wildlife Service • Geological Survey
U.S. Environmental Protection Agency, Pacific Islands Office Region 9
Department of the Agriculture, Natural Resources Conservation Service
Department of Transportation, Federal Highways Administration
State of Hawai‘i
Department of Agriculture
Department of Business, Economic Development & Tourism • Land Use Commission • Office of Planning
Department of Defense
Department of Education
Department of Hawaiian Home Lands
Department of Health • Clean Air Branch • Clean Water Branch • Office of Environmental Quality Control • Safe Drinking Water Branch • Solid and Hazardous Waste Branch • Wastewater Branch
Department of Land and Natural Resources • Commission on Water Resources Management • Division of Forestry and Wildlife • Engineering Division • Land Division • Office of Conservation and Coastal Lands • Historic Preservation Division
Department of Transportation, Highways Division
Office of Hawaiian Affairs

County of Hawai‘i
Civil Defense Agency
Department of Environmental Management
Department of Finance, Real Property Tax Division
Department of Housing and Community Development
Department of Parks and Recreation
Department of Planning, Planning Division
Department of Public Works, • Engineering Division • Building Division
Department of Water Supply
Fire Department
Police Department
Elected Officials
County of Hawai‘i, Mayor Harry Kim
County of Hawai‘i Councilmember, Rebecca Villegas, District 7
State House Representative, David A. Tarnas, District 7
State Senator, Dru Mamo Kanuha, District 3
The Honorable David Ige, Governor of the State of Hawai‘i
Utility Companies
Hawai‘i Electric Light Company, Inc.
Hawaiian Telecom, Inc.
Libraries
Hawai‘i State Library
Kailua-Kona Public Library
Kealakekua Public Library
News Media
Hawai‘i Tribune Herald
West Hawai‘i Today
Community Groups/Individuals
Kailua Village Design Commission
Cultural Resources Commission
Adjacent Landowners and Neighbors

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