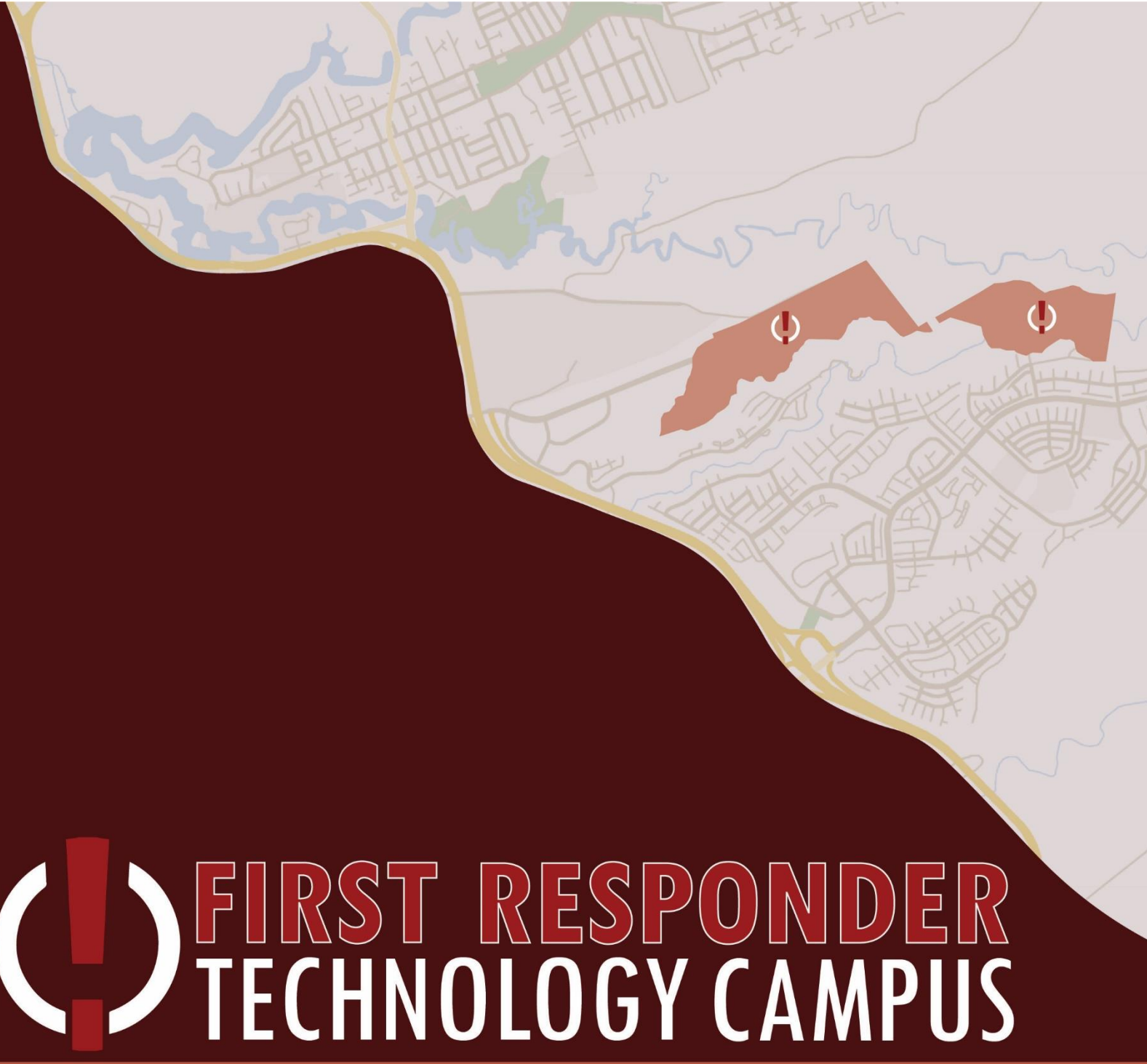

FIRST RESPONDER TECHNOLOGY CAMPUS

PROGRAMMATIC DRAFT ENVIRONMENTAL IMPACT STATEMENT
MAY 2022

VOLUME I

Prepared for: State of Hawai'i
Hawai'i Technology Development Corporation

Prepared by: SSFM International, Inc.

htdc SSFM International

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First Responder Technology Campus

Programmatic Draft Environmental Impact Statement

May 2022

Prepared for:
State of Hawaiʻi
Hawaiʻi Technology Development Corporation
521 Ala Moana Blvd, Suite 255
Honolulu, Hawaiʻi 96813

Prepared by:
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This Draft Environmental Impact Statement and all ancillary documents were prepared under my direction or supervision, and the information submitted, to the best of my knowledge, fully addresses document content requirements set forth in Hawaiʻi Revised Statutes, Chapter 343 and Hawaiʻi Administrative Rules, § 11-200.1, Subchapter 10.

April 29, 2022

Jared K. Chang, AICP
SSFM International

Date

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Appendix C: Water Quality Report (Stantec)

Appendix D: Biological Survey Report (H.T. Harvey & Associates)

Appendix E: Air Quality Technical Report (Stantec)

Appendix F: Environmental Noise Assessment (D.L. Adams Associates, Ltd.)

Appendix G: Traffic Impact Analysis Report (SSFM International, Inc.)

Appendix H: Socio-Economic Impact Assessment (SMS)

Appendix I: Agricultural Impact Assessment (Plasch Econ Pacific LLC)

Appendix J: Cultural Impact Assessment (Honua Consulting)

Appendix K: Archaeological Literature Review and Field Inspection Report (Cultural Surveys Hawai‘i)

Appendix L: Alternative Site Analysis Report (Colliers Hawai‘i Research and Consulting)

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Project Information Summary

Project Name:	First Responder Technology Campus
Proposing Agency:	Hawai‘i Technology Development Corporation 521 Ala Moana Blvd, Suite 255 Honolulu, Hawai‘i 96813 Contact: Len Higashi, Acting Executive Director Phone: (808) 539-3814 Email: len@htdc.org
Accepting Authority:	Governor, State of Hawai‘i Executive Chambers State Capitol Honolulu, Hawai‘i 96813 Phone: (808) 586-0034
Planning Consultant:	SSFM International, Inc. 501 Sumner St. Suite 620 Honolulu, Hawai‘i 96817 Contact: Jared Chang, Senior Planner Phone: (808) 356-1242 Email: jchang@ssfm.com
Location:	Mililani, O‘ahu, Hawai‘i
District:	‘Ewa and Wahiawā
Tax Map Keys:	(1) 9-5-002:039; (1) 9-5-002:057
Land Area:	Parcel 039: 93.57 acres; Parcel 057: 150.41 acres
Recorded Fee Owner:	Hawai‘i Technology Development Corporation
Existing Use:	Undeveloped
State Land Use District:	Agricultural and Urban
Special Management Area:	Not within the Special Management Area
City and County of Honolulu Zoning:	IMX-1, AG-1 and F-1
Central O‘ahu Sustainable Communities Plan:	Technology Park, Military Training Areas, Agriculture and Preservation; FRTC identified as future Land Use on map
Flood Zone Designation:	Zone D – Undetermined flood hazard
Proposed Action:	See Section 2.0
Chapter 343, HRS Trigger(s):	Propose the use of state or county lands or the use of state or county funds
Required Permits and Approvals:	See Section 2.6
Agencies to be Consulted:	See Section 10.0

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List of Acronyms

ALISH	Agricultural Lands of Importance to the State of Hawai‘i
ALUM	Agricultural Land Use Map
amsl	Above mean sea level
ARFF	State of Hawai‘i, Department of Transportation, Airport Rescue Fire Fighters
ATV	All-terrain Vehicles
BMP	Best Management Practices
BWS	Board of Water Supply
CDP	Census Designated Place
CIA	Cultural Impact Assessment
CO	Carbon monoxide
CO SCP	Central O‘ahu Sustainable Communities Plan
cpa	Capita per acre
CSH	Cultural Surveys Hawai‘i, Inc.
CTAHR	College of Tropical Agriculture and Human Resources
CWPPP	Certified Water Pollution Plan Preparer
CWRM	State Commission on Water Resource Management
CZM	State Coastal Zone Management
D&O	Decision & Order
DBEDT	State of Hawai‘i, Department of Business, Economic Development & Tourism
DEM	City and County of Honolulu, Department of Emergency Management
DLAA	D.L. Adams Associates
DLNR	State of Hawai‘i, Department of Land and Natural Resources
DLNR-DOCARE	State of Hawai‘i, Department of Land and Natural Resources, Division of Conservation and Resources Enforcement
DLNR-DOFAW	State of Hawai‘i, Department of Land and Natural Resources, Division of Forestry and Wildlife
DOA	State of Hawai‘i, Department of Agriculture
DOE	State of Hawai‘i, Department of Education
DOH	State of Hawai‘i, Department of Health
DPP	Department of Planning and Permitting
DPR	City and County of Honolulu Department of Parks and Recreation
Draft EIS	Draft Environmental Impact Statement
DTS	City and County of Honolulu, Department of Transportation Services
EB	Eastbound
EIS	Environmental Impact Statement
EISPN	Environmental Impact Statement Preparation Notice
EMS	City and County of Honolulu, Emergency Medical Services
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
ERP	Environmental Review Program
EVOC	Emergency Vehicle Operator Course
F	Fahrenheit
FBI	Federal Bureau of Investigation
FEMA	Federal Emergency Management Agency

FFD	Federal Fire Department
FHWA	U.S. Federal Highway Administration
Final EIS	Final Environmental Impact Statement
FRTC	First Responder Technology Campus
ft.	Feet
gal	Gallons
GFA	Gross floor area
GHG	Greenhouse gas
HAR	Hawai‘i Administrative Rules
HAZMAT	Hazardous Materials
HDOT	State of Hawai‘i, Department of Transportation
HECO	Hawaiian Electric Company
HFD	City and County of Honolulu, Honolulu Fire Department
HI-EMA	State of Hawai‘i, Department of Defense, Hawai‘i Emergency Management Agency
HI-OHS	State of Hawai‘i, Department of Defense, Office of Homeland Security
HIAQS	Hawaii State Air Quality Standards
HIARNG	State of Hawai‘i, Department of Defense, Hawai‘i National Guard
HPD	City and County of Honolulu, Honolulu Police Department
HRS	Hawai‘i Revised Statutes
HTDC	State of Hawai‘i, Hawai‘i Technology Development Corporation
HTH	H.T. Harvey and Associates
IAL	Important Agricultural Lands
in.	Inch
ISO	International Standards Organization
ITE	Institute of Transportation Engineers
KV	Kilovolt
L_{eq}	Equivalent sound level
LID	Low Impact Development
LOS	Level of Service
LSB	University of Hawai‘i, Land Study Bureau
LTS	Level of Stress
LUO	Land Use Ordinance
MG	Million gallons
MOU	Memorandum of Understanding
MP	Milepost
mph	Miles per hour
MTP	Mililani Technology Park
MRE	Meals Ready-to-Eat
MUTCD	Manual on Uniform Traffic Control Devices
NAAQS	National Ambient Air Quality Standards
NAC	Noise Activity Category
NACTO	National Association of City Transportation Officials
NB	Northbound
NO_2	Nitrogen dioxide
NO_x	Oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System

NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
O_3	Ozone
OETS	State of Hawai'i, Department of Accounting and General Services, Office of Enterprise Technology Services
OHA	Office of Hawaiian Affairs
OPSD	State of Hawai'i, Office of Planning and Sustainable Design
Pb	Lead
PEP	Plasch Econ Pacific LLC
PEQI	Pedestrian Environmental Quality Index
PM	Particulate Matter
$PM_{2.5}$	Fine Particulate
PM_{10}	Coarse Particulate
PRU	Plan Review Use
PSD	State of Hawai'i, Department of Public Safety
Psi	Pounds per square inch
ROW	Right-of-way
SB	Southbound
SHPD	State Historic Preservation Division
SLR-XA	Sea Level Rise Exposure Area
SLUC	State Land Use Commission
SMA	Special Management Area
SO_2	Sulfur dioxide
STEM	Science, technology, engineering, and mathematics
STIP	Statewide Transportation Improvements Program
SWQC	Storm Water Quality Checklists
SWQR	Storm Water Quality Report
TIA	Traffic Impact Analysis
TIAR	Traffic Impact Analysis Report
TNWRE	Tom Nance Water Resource Engineering, Inc.
tpy	Tons per year
TWSC	Two-way stop controlled intersection
UHM-CDC	University of Hawai'i at Mānoa Community Design Center
US-OHSI	U.S. Office of Homeland Security Investigations
USAG	U.S. Army Garrison
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USMS	U.S. Marshals Service
UTV	Utility Terrain Vehicles
v/c	Volume to capacity
VOC	Volatile Organic Compounds
WB	Westbound

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1.0 INTRODUCTION

1.1 Background

The Hawaiʻi Technology Development Corporation (HTDC) proposes to develop the First Responder Technology Campus (FRTC) located in Mililani on the island of Oʻahu. The campus would be located on parcels owned by HTDC identified as Tax Map Keys (TMK) (1) 9-5-002: 039 and 057, which are approximately 93-acres and 150-acres, respectively ("project site", see Figure 1). The FRTC is envisioned to be a state-of-the-art facility and will include various uses ranging from office, classroom and warehouse uses to fitness facilities, indoor shooting range and other various types of training facilities for first responder agencies (sometimes referred to herein as the "campus"). In addition, the FRTC may have accessory uses such as a hotel/dormitory and workforce housing. The FRTC will include facilities for multiple Federal, State of Hawaiʻi and City and County of Honolulu (County) first responder agencies within one campus centrally located on Oʻahu for operations, training and disaster preparedness purposes.

In 1985, a *Final Environmental Impact Statement (Final EIS) for the Hawaiʻi Technology Park* (now known as Mililani Technology Park) was prepared by Belt Collins & Associates for Oceanic Properties, Inc. (a subsidiary of Castle & Cooke, Inc.), which proposed the use of Parcel 057 for Phase II of the Mililani Technology Park (MTP) development. Phase II of MTP was envisioned to include 115-acres of "campus industrial" use and 10-acres of open space use. Campus industrial uses were described as those involving high-technology operations or closely related activities, such as electronics, instruments, telecommunications, bio-technology, renewable energy, manufacturing and assembly, research and development, marketing and training, and ancillary warehousing and administrative functions. Phase II of MTP was never developed and the land set aside for this phase was subsequently sold to the State of Hawaiʻi in 2017.

In 2014, the Hawaiʻi State Legislature appropriated funds for the acquisition of Parcel 057 and an adjacent parcel within Waikakalaua Gulch (Parcel 039) to create the FRTC. In 2017, Pryzm Consulting LLC prepared a Due Diligence Report in support of the State's acquisition efforts based on a conceptual master plan prepared by the University of Hawaiʻi at Mānoa Community Design Center (UHM-CDC). The conceptual master plan included facilities for ten (10) State and County agencies to be located at the campus. The report found that roads, water, sewer, and electrical infrastructure would need to be developed for use of the lands by the State.

In 2021, HTDC conducted a charrette for the purpose of updating the master plan for the FRTC. The charrette involved representatives from nineteen (19) Federal, State, and County agencies to understand operational needs, opportunities, and constraints. The charrette allowed participants to state their own individual agency needs, understand the needs of their partner agencies and identify opportunities for collaboration towards building a cohesive vision of the FRTC resulting in an updated conceptual master plan. A summary of the charrette session is included in Section 10.1 of this document.

1.2 Programmatic EIS Approach

This Programmatic Draft Environmental Impact Statement (Draft EIS) was prepared in accordance with Hawai'i Revised Statutes (HRS), Chapter 343, and Hawai'i Administrative Rules (HAR), Title 11, Chapter 200.1. Per HAR §11-200.1-14(d)(2), if a proposed action is not eligible for an exemption and is required to prepare an Environmental Assessment (EA), a proposing agency may determine through its judgement and experience that an Environmental Impact Statement (EIS) is likely to be required, and thus may choose to prepare an EIS starting with the preparation of an Environmental Impact Statement Preparation Notice (EISPN).

Based on the range, size and intensity of the uses proposed at the FRTC and on the significance criteria set forth in HAR Chapter 11-200.1.-13, it is anticipated that the FRTC development and actions proposed in this project may have the potential to result in significant impacts to the environment. Consequently, this Programmatic EIS is being prepared to provide an assessment of the potential project-related impacts and identification of any proposed mitigation measures, as necessary.

This document is being prepared as a "Programmatic" EIS because the proposed project can be defined as a "program" per HAR 11-200.1-2, which states that a program is "a series of one or more projects to be carried out concurrently or in phases within a general timeline, that may include multiple sites or geographic areas, and is undertaken for a broad goal or purpose." Due to the size of the proposed development, range of land uses and anticipated phased funding allocations necessary, the FRTC is anticipated to be developed over an approximate span of 15 years or more. As more details are determined or updated throughout the project, additional environmental review documentation in the form of EAs or Supplemental EISs may be required if it is determined that significant changes are necessary that would result in new or additional actions or impacts that were not assessed in this Programmatic Draft EIS.

1.3 EISPN Review Process and Public Scoping Meeting

An EISPN was prepared in accordance with the requirements of HRS, Chapter 343, and HAR §11-200.1-23 and published in *The Environmental Notice* on November 8, 2021, followed by a 30-day public review period which ended on December 8, 2021. A summary of the written comments and responses are provided in Section 10.4 and copies of written correspondences are provided in Appendix A.

An EIS public scoping meeting was held during the 30-day public review period on Friday, November 12, 2021, from 1:30PM to 3:00PM per HAR §11-200.1-23. This meeting was conducted as a virtual Zoom meeting due to public health concerns and the County's restrictions on in-person gatherings. A link to sign up for the meeting was included with the publication of the EISPN. A summary of the EISPN public scoping meeting is provided in Section 10.4.

2.0 PROJECT DESCRIPTION

2.1 Project Setting

The FRTC project site encompasses approximately 243 acres of land between Mililani and Wahiawā on the island of Oʻahu. The project site consists of two TMK parcels identified as TMKs (1) 9-5-002: 039 and 057, which are approximately 93-acres and 150-acres, respectively. A majority of Parcel 057 is in the Waikele Ahupuaʻa, while a portion of Parcel 057 and Parcel 039 is in the Waipio Ahupuaʻa (see Figure 1). Both parcels are owned by the HTDC. The project site is located east of the H-2 Freeway and Kamehameha Highway. Existing access to the site is from Kahelu Avenue, which runs through Mililani Tech Park (MTP) Phase 1 from the H-2 off ramp to the western border of Parcel 057. There are currently no paved roads, utilities, or site infrastructure for water, power, communications, wastewater, or drainage facilities on site.

At the entrance to Parcel 057 is a gate that opens to an unpaved road within the parcel providing access to a Board of Water Supply (BWS) reservoir located on a separate TMK parcel between Parcel 057 and 039. BWS has several easements that run through Parcel 057 to access the water reservoir. HECO has four easements running through Parcel 057 for electrical transmission lines, which are identified in Figure 3. Two 25 feet (ft.) wide easements run from north to south; a 15 ft. wide easement runs from east to west; and a 10ft wide easement runs along the southern property line of the parcel. HECO also has an existing underground 12.47 KV line at the end of Kahelu Avenue.

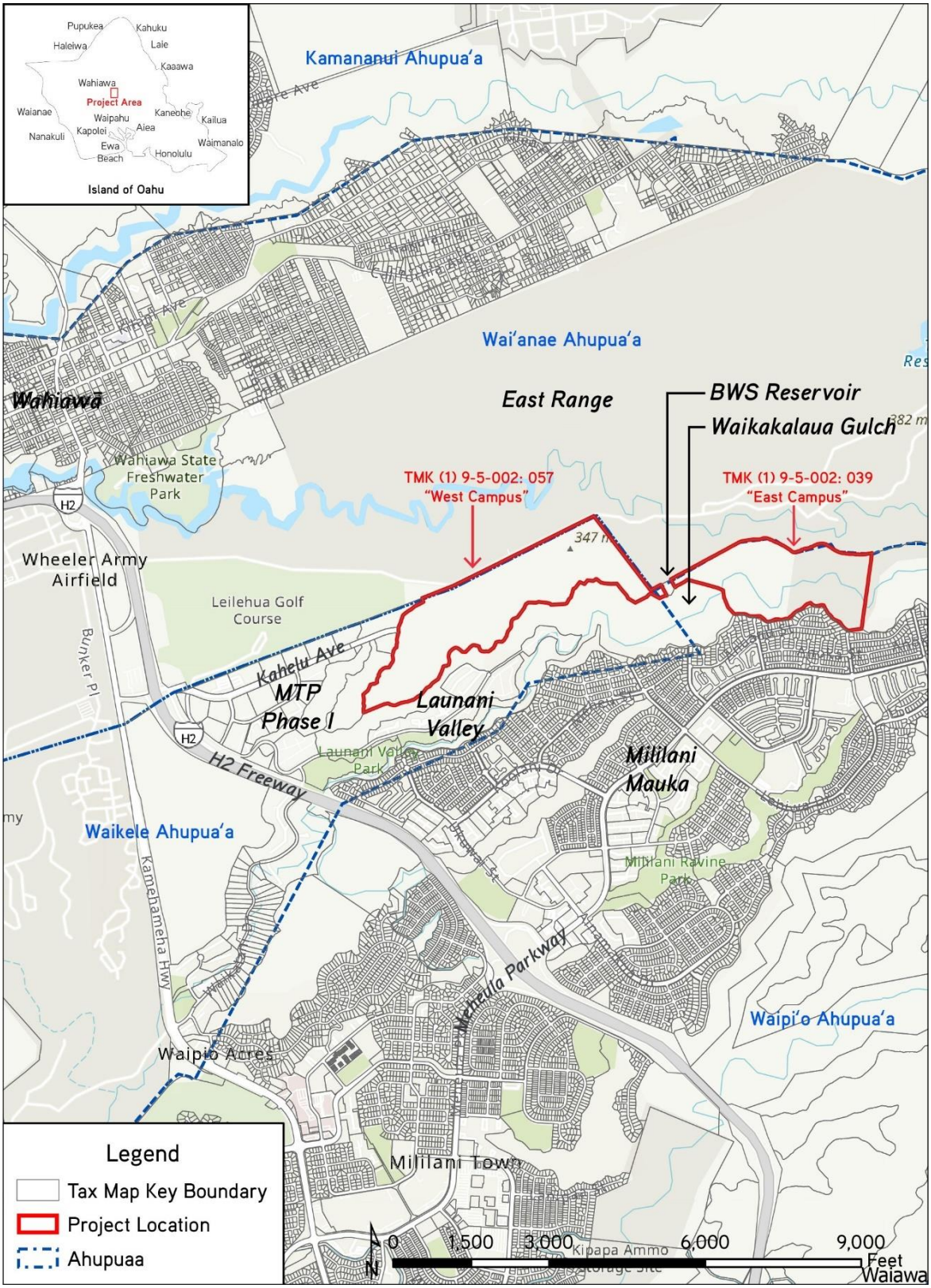
Parcel 057, also herein referred to as the “west campus,” is currently undeveloped and was formerly in agricultural use through most of the 1900’s where Dole Food Company grew pineapple. Since 2002 when Dole Food Company shifted agricultural operations to Oʻahu’s North Shore, the former agricultural fields on the west campus have not been farmed and the fallow lands have transformed into a dense forest dominated by Albizia trees. This parcel is geographically bounded by Leilehua Golf Course and the Federally owned East Range to the north, MTP Phase I to the west, Waikakalaua Gulch to the south, and undeveloped conservation lands to the east.

Parcel 039, also herein referred to as the “east campus,” is currently undeveloped. From the mid-1800s to at least 1906, this parcel is believed to have been used for grazing cattle and possibly goats. Neither the *Agricultural Land Use Map (ALUM)* for the 1978-to-1980 period nor the *Statewide Agricultural Land Use Baseline 2015* show any grazing or any other agricultural activity within the East Parcel (Plasch, 2022). Today, this parcel is covered by a dense forest of mature Albizia trees and other species. Waikakalaua Gulch meanders through the center of this parcel in an east-to-west flow direction with stream bank slopes varying from being a gradual earthen stretch to an almost vertical and rocky gulch slope. This parcel is geographically bounded by the Federally owned East Range to the north, a (BWS) reservoir to the west, Mililani Mauka residences to the south, and undeveloped conservation lands to the east.

The BWS reservoir is located between the west campus and east campus on a separate tax map key parcel. This parcel bifurcates the FRTC west and east campuses and is not included in the project site for this proposed action. An access easement on federally owned lands to the immediate north of the BWS reservoir parcel is being sought by HTDC concurrently with this Programmatic Draft EIS to provide a connection between the west and east campuses.

Other surrounding landmarks and uses adjacent to the site include the Wheeler Army Airfield, the town of Wahiawā, and residential developments including Launani Valley and Mililani Mauka. Wheeler Army Airfield is located approximately 1.15 miles northeast of Parcel 057 on land adjacent to Schofield Barracks and is home to a variety of Department of Defense facilities and activities. These include the Defense Information Systems Agency (DISA), the 169th Aircraft Control & Warning Squadron (169 ACWS) of the Hawaiʻi Air National Guard, the 193rd Aviation Regiment (Medium Lift), Detachment 55 Operational Support Airlift (Det 55 OSA) of the Hawaiʻi Army National Guard, the Regular Army's 25th Infantry Division's 25th Combat Aviation Brigade composed of the 25th Aviation Regiment, the 2nd Squadron-6th Cavalry Regiment, and the 209th Aviation Support Battalion. The primary uses along Kahelu Avenue in MTP Phase 1 includes industrial, warehouse, commercial office, house of worship and the MTP Preschool. Lands north of the project site are zoned for federal uses and include the Leilehua Golf Course, storage, maintenance, and training facilities for the U.S. Army Garrison, and areas zoned for preservation. To the south of the project site includes multi-family and single-family residential developments, and park space in the Launani Valley and in Mililani Mauka developments.

Figure 1: Project Location Map



2.2 Purpose and Need for the Proposed Action

The purpose for the FRTC is to provide a common centralized location for first responder agencies operations and to serve their joint training needs; provide a location that is not threatened by multiple hazards or climate change; and provide modern facilities and adequate spacing for personnel and equipment storage and ancillary needs for first responder agencies.

In 2014, the Hawaiʻi State Legislature appropriated funds for the acquisition of lands for the purpose of developing the FRTC. At the time, the legislature was responding to overlapping needs of first responder agencies, such as the need for a centralized headquarters by the Sheriff's Division and Emergency Medical Services (EMS), and the need for joint-training facilities for sheriffs, police, fire fighters, and the National Guard. In addition, several first responder agencies expressed concerns with potential impacts of climate change and sea level rise on existing facilities, such as headquarters, offices, airfields, and training facilities, which are within Oʻahu's tsunami evacuation zones, flood hazard zones identified in the *Federal Emergency Management Agency's Flood Insurance Rate Maps*, and/or the 3.2-foot sea level rise exposure area modeled by the University of Hawaiʻi Coastal Geology Group.

In 2020, the COVID-19 pandemic brought a new shared focus to Hawaiʻi's immediate and long-term needs for the FRTC. The first responder agencies were trying to manage the public's safety, while managing the safety of their own personnel in order to continue providing services to the public. The pandemic highlighted the challenges that many of these agencies face with their inadequate facilities, lack of space for personnel, and lack of space to store personal protective equipment (PPE) and other emergency supplies for the residents and visitors of Hawaiʻi. Working through the pandemic and all the challenges it brought served to inform the FRTC's charrette planning process and brought clarity to all the stakeholders' existential needs.

These circumstances resulted in nearly double the number of first responder agencies invested in the project as shown through the attendance during the 2021 charrette, in comparison to the initial planning exercises conducted in 2014 to 2017. First responder agencies engaged for this project have identified a need for updated facilities, increased administrative space and in-state training facilities, among other ancillary uses. Trainees of first responder agencies are often sent to out-of-state training facilities, which comes at a significant cost to each agency. In addition, many of the agencies' existing facilities are within coastal areas that are vulnerable to natural disasters and climate change hazards. It is expected that some of the assumptions that were made during the charrette process will change as the design progresses, requirements evolve, and additional data surfaces that wasn't available during the charrette process, and more stakeholders, community leaders and the public are drawn into the conversation in the future.

The proposed FRTC would provide a centralized location for first responder agencies' operations and training. Locating multiple agencies in one campus will provide more

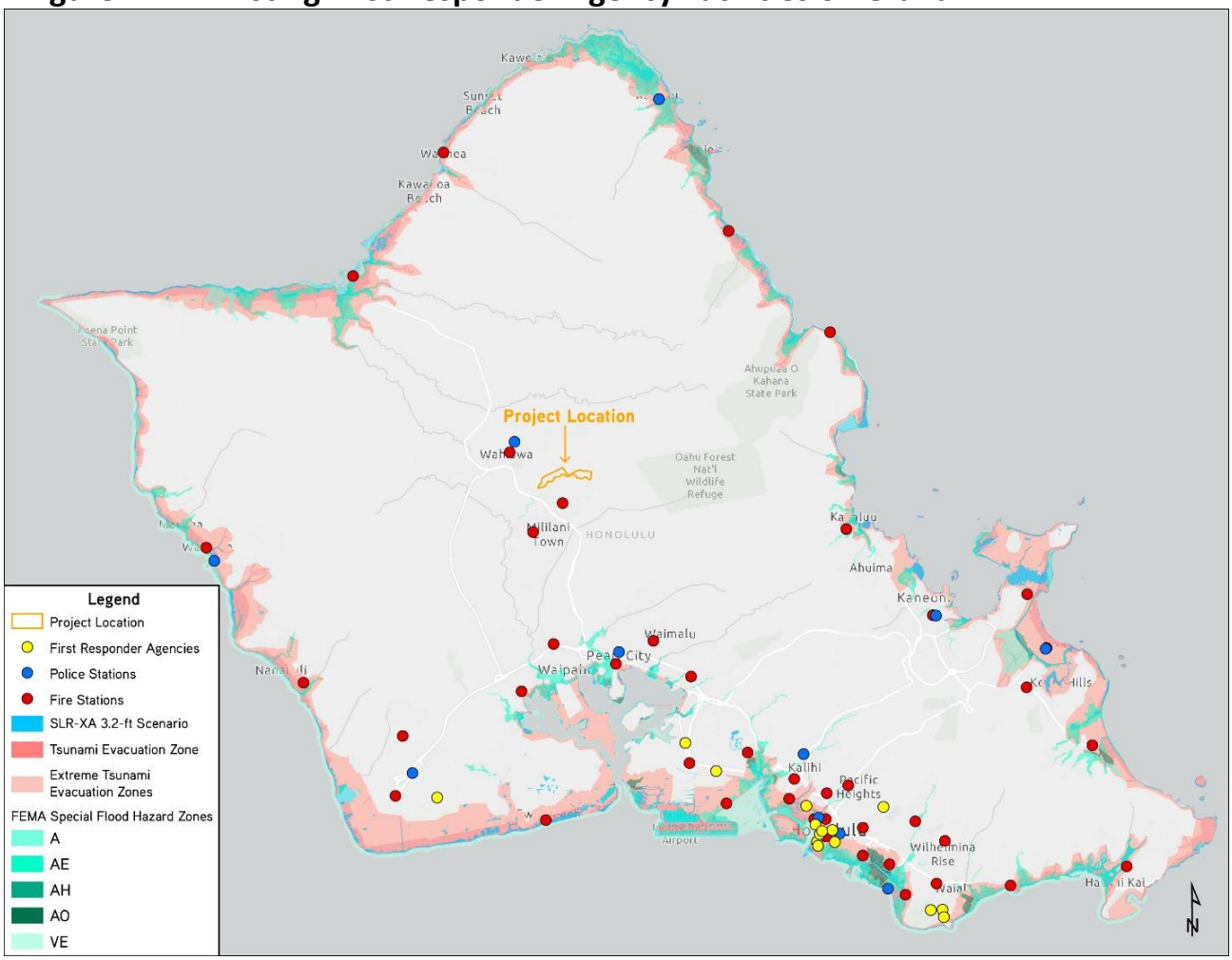
opportunities for integration, coordination, and cross-training between agencies from the Federal, State, and County level, while decreasing the cost for these agencies to develop their own individual facilities. This section covers a summary of the operational issues, challenges, and/or constraints that the first responder agencies currently face due to the existing conditions and facilities that they use for their operations and training.

Approximately 60% of O‘ahu's critical infrastructure is located within a mile of the coast. Figure 2 shows the first responder agencies' offices, police stations, and fire stations in relation to the tsunami evacuation zone, extreme tsunami evacuation zone, FEMA Special Flood Hazard Zones, and the 3.2-ft. SLR-XA. Eight of the first responder agencies' offices are in areas identified to be at risk of inundation by tsunami, floods, and/or sea level rise, with the remaining offices just outside of these at-risk zones. Based on the guidance issued by the County's Climate Commission, agencies should be considering 6-ft. of sea level rise for critical infrastructure, which would assumingly put more offices and police and fire stations within the at-risk zones. With the first responder agencies' offices located in the at-risk zones, the state and county's ability to provide critical services in the wake of a disaster is at risk when coastal hazards occur, such as storm surge, flooding, tsunamis, and sea level rise.

In *Ola: O‘ahu Resilience Strategy* (2019), the strategy identifies 44 actions for the island of O‘ahu to address the impending impacts of climate change. Under Pillar II./ Bouncing Forward, Goal 1: Pre-Disaster Preparation is Action 11, which is to "protect lives and property by updating building codes" (OCCSR, 2019). Codifying resilience in the building industry will reduce the risk of infrastructure loss and the costs associated with repairs and or rebuilding of facilities after a disaster event. The *O‘ahu Resilience Strategy* also notes that "FEMA has indicated that O‘ahu will have difficulty qualifying for federal hazard mitigation and other disaster funds if codes are not upgraded immediately." (OCCSR, 2019). The first responder agencies' offices that have not been upgraded to meet current building codes may struggle to receive disaster funds in the event that their facilities are impacted by natural disasters. Based on a recent study from the National Institute of Building Sciences, $1 spent on new code requirements would result in $11 of avoided property damage in the event of a disaster (Multihazard Mitigation Council, 2018).

Locating the first responder agencies to the FRTC site would be following the action and guidance identified in the *O‘ahu Resilience Strategy* by locating federal, state, and county critical infrastructure out of areas vulnerable to natural disasters and the impacts of climate change. It would also allow the first responder agencies to be in facilities designed to meet current building codes, thus reducing the risk of not qualifying for federal hazard mitigation and other disaster funds in the event of a disaster.

Figure 2: Existing First Responder Agency Facilities on O'ahu



Source: City and County of Honolulu, FEMA, University of Hawai'i Coastal Geology Group

2.2.1 First Responder Agencies' Existing Conditions and Needs

This section provides descriptions of identified first responder agency existing conditions and needs, as available for reporting in this document.

FEDERAL AGENCIES

The federal agencies proposed to be located at the FRTC include the U.S. Office of Homeland Security Investigations (US-OHSI), U.S. Marshals Service (USMS), Federal Bureau of Investigation (FBI), and the Federal Fire Department (FFD). These agencies have participated in the charrette process and have expressed their needs for office/administrative space, shooting ranges, training areas, overnight accommodations, classrooms, and storage space.

U.S. Office of Homeland Security Investigations (US-OHSI)
The U.S. Office of Homeland Security Investigations (US-OHSI) is responsible for investigations into cyber and financial crime, crimes of exploitation (e.g., child or sexual abuse), human trafficking, narcotics, national security and terrorism, global trade (e.g., customs fraud, manufacturing of products), and international wildlife trafficking. US-OHSI's existing office is located on Ala Moana Boulevard in the old immigrant station that was built in the 1930s. Like Hawai‘i Emergency Management Agency’s (HI-EMA) headquarters, US-OHSI's office is not adequate to accommodate the current and future needs and operations of the agency. US-OHSI's office is within the tsunami evacuation zone and near areas identified within the 3.2 ft. scenario sea level rise exposure area (SLR-XA).

STATE AGENCIES

The state agencies proposed to be located at the FRTC include the Hawai‘i Emergency Management Agency (HI-EMA), Hawai‘i National Guard (HIARNG), Office of Homeland Security/Fusion Center (HI-OHS), Department of Transportation Airport Rescue Fire Fighters (ARFF), Department of Transportation Harbor Police, Division of Forestry and Wildlife (DLNR-DOFAW), Division of Conservation and Resources Enforcement (DLNR-DOCARE), Department of Public Safety (PSD), Office of Enterprise Technology Services (OETS) and the University of Hawai‘i Community College System. These agencies have participated in the charrette process and have expressed their own individual agency needs. Many of the state agencies are in aging facilities with inadequate space for their personnel, equipment, and training activities and are forced to rent space from private landowners to carry out day-to-day operations, classes, and/or training sessions. In addition, many of the facilities are within areas that are vulnerable to inundation by tsunamis, flooding, and/or sea level rise.

State of Hawai‘i Emergency Management Agency (HI-EMA)
The Hawai‘i Emergency Management Agency (HI-EMA) is the emergency management agency for the State of Hawai‘i that provides State warning capabilities, 24 hours a day, 7 days a week (24/7) monitoring, and incident response and coordination. HI-EMA serves as the coordinating agency between the four county emergency management agencies (Hawai‘i County Civil Defense, Maui County Emergency Management Agency, City and County of Honolulu Department of Emergency Management, and Kaua‘i Emergency Management Agency), state agencies including the Hawai‘i Army and Air National Guard, federal agencies such as the Federal Emergency Management Agency (FEMA) and U.S. Department of Defense, as well as State Warning Point. The State Warning Point uses the Hawai‘i Warning System to transmit and receive emergency messages to and from the Emergency Operations Center (EOC) and warning point for each county. The State Warning Point is also part of the National Warning System, which connects over 22,000 emergency managers and the National Weather Service. In addition to emergency response, HI-EMA also provides advanced telecommunications, the state-wide siren warning system, planning program, training, public information, disaster mitigation, and disaster assistance programs.

HI-EMA's headquarters are currently located in the Diamond Head Crater in facilities that were built when the military fortified Diamond Head in 1906. During that time, five batteries were built to house artillery; HI-EMA's office is currently housed in Battery Birkhimer, which is located on the crater floor. Battery Birkhimer is over 100 years old and was not designed to accommodate the current and future needs of HI-EMA's operations. The facility does not provide adequate operational space for HI-EMA's staff and other first responder agencies to congregate during emergency events. There is also inadequate warehouse space to store necessary equipment for the agency to assist residents and visitors across the State in the event of a natural disaster, such as Meals Ready-to-Eat (MREs). In addition, HI-EMA lacks the necessary state-of-the-art facilities required for proper training of their incident management trainees. As a result, trainees are sent to Maryland, which comes at a significant financial and operational cost to the agency.

State of Hawai‘i, Department of Public Safety (PSD)

The State Department of Public Safety (PSD) provides correctional and law enforcement services to Hawai‘i through their Corrections Division, which oversees jails and prisons, and the Law Enforcement Division, which includes the Narcotics Enforcement and Sheriff Divisions. PSD’s training and staff development section currently shares office space with the State Department of Human Services, and parking space with Costco in Iwilei. The annual rent at this location is $900,000 a year. PSD’s armory, training facilities, classrooms, gym, and administrative offices are housed at this location.

PSD has identified a need for more space to provide proper training for their recruits. PSD currently does not have any emergency vehicle operator courses (EVOC) or indoor firing ranges, which are necessary for their training. In addition, PSD requires dorms for their recruits from the neighbor islands, as they currently pay $10,000 to - $15,000 annually to house recruits in hotels during training operations on O‘ahu.

State of Hawai‘i, Department of Land and Natural Resources, Division of Conservation and Resources Enforcement

The State Department of Land and Natural Resources, Division of Conservation and Resources Enforcement’s (DLNR-DOCARE) mission is to protect, conserve and manage Hawai‘i’s unique and limited natural, cultural and historic resources. DLNR-DOCARE's authority covers approximately 1.3 million acres of State-owned property, including 7 million miles of coastline. DLNR-DOCARE's dedicated facility for O‘ahu-based operations is located within two (2) portable facilities which is inadequate. The division needs training facilities, classrooms, an armory, and storage space for evidence, vehicles, and equipment. DLNR-DOCARE does not have any existing training facilities, and instead must rent or borrow space from UH and/or other agencies to conduct driver training, scuba diving training, small-arms shooting, and other training activities.

State of Hawai‘i, Office of Enterprise Technology Services (OETS)
The State Office of Enterprise Technology Services (OETS) provides governance for executive branch information technology (IT) projects and supports the management and operation of all state agencies by providing effective, efficient, coordinated and cost-beneficial computer and telecommunication services. OETS also works collaboratively with federal, state and county agencies to provide connectivity between their systems and networks. In addition, the department provides and manages radio systems to first responder and state law enforcement agencies. The basement of the Kalanimoku Building serves as OETS' headquarters, which is prone to flooding since it is located below the water table. During strong storm and rain events, sandbags must be placed at the entrance to the underground parking structure of the Kalanimoku Building and near the entrance to OETS' headquarters to prevent flooding within the facility.

COUNTY AGENCIES

The county agencies proposed to be located at the FRTC include the Department of Emergency Management (DEM), Emergency Medical Services (EMS), Honolulu Police Department (HPD), and the Honolulu Fire Department (HFD). These agencies participated in the charrette process and have expressed similar needs as the federal and state agencies, in addition to their need for driver training facilities and vehicle storage space. The county agencies co-respond to emergencies together, thus emphasizing the need and benefit of having a shared training facility to better coordinate their emergency response activities.

City and County of Honolulu, Emergency Services Department, Emergency Medical Services (EMS)
The Honolulu Emergency Medical Services (EMS) Division of the Emergency Services Department (ESD) provides pre-hospital emergency medical care and services to residents and visitors of O‘ahu. EMS co-responds to emergencies with agencies such as the Honolulu Police Department (HPD), Honolulu Fire Department (HFD), and the Federal Fire Department (FFD). EMS currently has 21 ambulance stations and two response units across the island of O‘ahu that respond to an average of 280 calls a day. The division's headquarters are located near the airport in office space that costs $625,000 a year to rent. In addition, EMS has four warehouses across the island for the storage of their vehicles; 20 of the vehicles are parked in an uncovered and unprotected lot in Aiea that requires EMS to hire 24/7 security. EMS does not have a driving track to train ambulance drivers and has instead rented space from Kalaeloa Airport, Aloha Stadium, Waipio Soccer Complex parking lot, and HFD's training track. These facilities are often in high demand throughout the year, making it difficult for EMS to find available times to use these facilities for driver training. EMS also does not have any simulation labs for medical response training, or vehicle maintenance areas for their ambulances and vehicles.

City and County of Honolulu, Honolulu Fire Department
In addition to fire-related emergencies, the Honolulu Fire Department (HFD) also responds to hazardous material (HAZMAT), rescue, vehicle extraction, and medical related emergencies. On

average, the department responds to 57,000 calls a year; this includes fire related emergencies and calls not specific to law enforcement emergencies. The HFD currently trains at the Charles H. Thurston Fire Training Center located near the Daniel K. Inouye International Airport, which has multiple classrooms and administrative offices, a six-story training tower, and various training props. The training center was completed in 1987 and is located on 5.16-acres of land, which was rented from the U.S. Navy before conveyance to the City and County of Honolulu in 2005.

Functionally, the HFD has outgrown the current training center. Recycled shipping containers have been set up to function as temporary trailers to house firefighter recruit classrooms and locker, weight training, and storage rooms. The recruit break area and other training areas are situated under portable tents and canopies. HFD's training equipment are also housed in temporary trailers, while other training apparatuses are left outside and are vulnerable to outdoor conditions, theft, and vandalism due to the limited amount of secured space. To meet the needs for additional classroom space, the HFD has rented space at Ala Moana Hotel, Pier 19, and the Neil Blaisdell Center Exhibition Hall, which requires additional operational efforts and costs to coordinate for classes and training.

The HFD needs live fire training props and additional space for auto extraction training. Currently, the HFD borrows live fire training props from the Federal Fire Department to conduct their annual live fire training required by the National Fire Protection Agency (NFPA). Additional space and equipment are needed for auto extraction training, including multiple vehicle scenarios, commercial vehicle incidents, roll-overs, roll-unders, incidents involving fixed structures, and incidents involving collapsed buildings.

City and County of Honolulu, Police Department

The Honolulu Police Department (HPD) currently has 10 stations and substations, and one headquarters located on South Beretania Street in downtown Honolulu. In 2020, the HPD received 991,016 calls for service, of which 859,164 (86.7%) were for police services (HPD, 2020). Also in 2020, approximately 4,383 people applied online to register for the Metropolitan Police Recruit (MPR) entrance exam. Out of those that applied and passed the MPR exam, 190 applicants were selected for four recruit classes, which started in January, April, July, and October of 2020.

The HPD is primarily in need of training and storage space. The HPD hosts four academies a year, with 50 - 100 recruits in each academy. Training space needed includes space for short arms range, long arms range, tactical shooting range, urban village (swat house with simulations), drone training, emergency vehicle operator course (EVOC) training, and open outdoor training. The HPD co-responds to emergencies and thus would benefit from joint training with other agencies. The HPD currently participates in joint training with agencies such as HFD, EMS, other state agencies for explosive ordnance and low speed EVOC training.

In addition, the HPD is in need of storage space for evidence warehouses and equipment. The evidence stored in the warehouses require climate control and restricted access due to the nature of the items. HPD also requires additional space for their armory, supplies, and equipment.

2.3 Proposed Action

The proposed action is to develop a First Responder Technology Campus (FRTC) on HTDC owned parcels. The campus is envisioned to be a state-of-the-art facility and will include various uses ranging from office, classroom, warehouse, fitness, indoor shooting range, outdoor training and may include accessory uses such as hotel/dormitory and workforce housing. The campus will include facilities for multiple Federal, State of Hawai‘i and City and County of Honolulu first responder agencies within one campus centrally located on O‘ahu for training and disaster preparedness purposes.

HTDC is the State agency that is conducting the conceptual planning and pursuing initial entitlements for the FRTC. The conceptual site plans are shown in Figures 3 and 4. This will be the first campus of its kind in the State of Hawai‘i. At full buildout, the FRTC is anticipated to serve nineteen (19) different first responder agencies consisting of Federal, State and County agencies. A listing of anticipated agencies participating in the development of this project includes:

1. U.S. Office of Homeland Security Investigations (US-OHSI)
2. U.S. Marshals Service (USMS)
3. Federal Bureau of Investigation (FBI)
4. Federal Fire Department (FFD)
5. State of Hawai‘i, Department of Business and Economic Development, Hawai‘i Technology Development Corporation (HTDC)
6. State of Hawai‘i, Department of Defense, Hawai‘i Emergency Management Agency (HI-EMA)
7. State of Hawai‘i, Department of Defense, Hawai‘i National Guard (HIARNG)
8. State of Hawai‘i, Department of Defense, Office of Homeland Security/Fusion Center (HI-OHS)
9. State of Hawai‘i, Department of Transportation, Airport Rescue Fire Fighters (ARFF)
10. State of Hawai‘i, Department of Transportation, Harbor Police
11. State of Hawai‘i, Department of Land and Natural Resources, Division of Forestry and Wildlife (DLNR-DOFAW)
12. State of Hawai‘i, Department of Land and Natural Resources, Division of Conservation and Resources Enforcement (DLNR-DOCARE)
13. State of Hawai‘i, Department of Public Safety (PSD)
14. State of Hawai‘i, Department of Accounting and General Services, Office of Enterprise Technology Services (OETS)

15. University of Hawai'i Community College System
16. City and County of Honolulu, Department of Emergency Management (DEM)
17. City and County of Honolulu, Emergency Medical Services (EMS)
18. City and County of Honolulu, Honolulu Police Department (HPD)
19. City and County of Honolulu, Honolulu Fire Department (HFD)

The "main core" of the FRTC (located on Parcel 057 and identified in Figure 3) will include office and warehouse spaces for agencies, as well as shared facility space. Parcel 057 may also include accessory uses, such as overnight accommodations and workforce housing. The main core of the FRTC will include the operations, training, and other governmental functions of the Federal, State, and County first responder agencies. As the main core will include the primary functions of the agencies, and will include storage of equipment, evidence, vehicles, and sensitive materials, it will require security clearance to enter the area; a security gate and office will be located at the entrance to the main core. Table 1 provides a breakdown of the total space provided for each use followed by a brief description of the FRTC's proposed spaces.

Table 1: FRTC Programmed Spaces

Programmed Spaces	Total Size (Approx. in Square Feet)
Dedicated Spaces for Agencies	
Office Spaces	368,000
Classroom Spaces	42,400
Warehouse Spaces	293,000
Parking Structure	134,200
Shared Facility Space	
Conference and Training Spaces	63,000
Dining and Food Facilities	20,000
Fitness Facilities	76,000
Indoor Shooting Ranges	99,000
Facility Management and Support Spaces	7,000
Overnight Accommodations	209,000

Office Spaces

Office and administrative space will be provided in the main core of the FRTC on Parcel 057. The office space provided to each agency will range in size and uses as some spaces will serve as the main headquarters for agencies, while others will function as satellite offices. The types of users will also differ between each agency, and may include administrative staff, training staff, field personnel, and new recruits.

Classroom Spaces
Classroom spaces will be provided to agencies for teaching and training new recruits. The classroom space provided to each agency will range in size and uses as some spaces will provide a hands-on training setting for physical activities, while others may provide a traditional classroom setting for gatherings.

Warehouse Spaces
Warehouse spaces will be provided to agencies and are anticipated to primarily function as storage spaces. The size of warehouse spaces allocated to each agency will differ depending on the items to be stored or other agency needs. Most agencies will have a dedicated amount of space within one shared warehouse, which will be located on the south-east portion of the site, while others will have their own dedicated warehouse due to the function or types of items to be stored. The shared warehouse will securely store items such as training equipment, weapons, operational equipment and tools, and other necessary items. HPD will primarily use their dedicated warehouse as storage space for sensitive materials, which requires an extra level of security to control access.

Parking Structure
A parking structure is proposed to serve most of the parking and vehicle storage needs for the FRTC. The parking structure would be located on the north portion of the site. The parking structure includes dedicated space for agency vehicles and parking spaces provided for employees. Stored agency vehicles will be in a secured portion of the parking structure, and may include training vehicles, all-terrain vehicles (ATVs), utility terrain vehicles (UTVs), vans, jet skis and watercrafts, trailers, sleds, and other types of vehicles. A helipad was originally envisioned to be included at the FRTC on the roof of the parking structure, and it was identified in the EISPN published on November 8, 2021. The proposed use of a helipad at the FRTC has been removed from further consideration as part of the proposed action within the Draft EIS. Should the helipad be constructed in the future, the appropriate documentation pursuant to Chapter 343, HRS will be prepared to further assess the impacts to the surrounding environment.

Conference and Indoor Training Spaces
The conference and training spaces will be within a shared facility that will provide spaces ranging from small meeting rooms that seat 12 people to a large auditorium that seats 450 people. The small to medium-sized rooms will be used for meetings, classrooms, and a conference hall, which will be a set of rooms that can be combined in various configurations. The larger rooms will include a lecture hall and auditorium. A portion of the anticipated training space may also be designed to accommodate future virtual reality and simulated training functionality.

Outdoor Training Spaces
Multiple outdoor training spaces are proposed at FRTC for use by the different first responder agencies. These outdoor training spaces may include the following types of facilities.

Towers for communications and training, such as an observation tower, radio tower (microwave and satellites), cellular tower, emergency warning siren equipment and rappelling tower.

Emergency response training, such as for hazardous materials (HAZMAT) and flashover events involving a significant increase in fire growth and development, rail car or station emergencies, collapsed building/rubble pile, mock urban scenarios, burn training for fire fighters, tactical raid and breaching.

Driver training facilities and Emergency Vehicle Operator Course (EVOC) training which would include a large, flat, paved surface for driver training. This may also include areas for emergency skid pad training and vehicle extraction training. Physical training facilities such as an obstacle course for physical fitness training and testing, running track, and search and rescue facilities.

Dining and Food Facilities
The dining facility will be a shared facility that will function as a cafeteria and kitchen space. The food service space will have office space for the food service director and nutritionist; prep and production space; dry, refrigerated, and freezer storage; washing space; and receiving and storage space.

Fitness Facilities
The shared fitness facilities will include amenities such as weight rooms, mat rooms, shower and locker rooms, and a competition pool. The weight and fitness rooms and competition pool will be designed to support recruit training. The fitness facilities will be in the basement of the parking structure, located on the north portion of the site.

Indoor Shooting Ranges
The indoor shooting range is a shared facility that is proposed to be in the basement of the parking structure. Three types of shooting ranges would be provided: a 25-yard standard range, 50-yard standard range, and a tactical range. The range will also include office space, secured storage, service shop, and meeting/ready room space.

Facility Management and Support Spaces
The facility management and support spaces will primarily house the mechanical and custodial equipment and will include spaces for security and management staff including a mailroom, guardhouse, and security office.

Hotel/Overnight Accommodations
Overnight accommodations for first responder agencies are identified as a functional requirement of training operations, that would be available to first responder agency staff and recruits. Recruit spaces will be designed to function like dorm rooms and will include shared bathroom facilities and showers. The staff spaces will be designed as apartment spaces, and will include a study/office space, living and dining space, kitchen, bathroom, and one or two bedrooms.

The FRTC will also include land set aside for possible private development of a select-service hotel for visitors and overnight accommodations. The hotel is anticipated to have an approximate 150-bed hotel occupancy and a 100-bed dormitory-like occupancy that will supply the anticipated demand within the community and the FRTC. There are currently no hotels in the Central Oʻahu communities of Mililani and Wahiawā. The first responder agencies' trainees from all islands are anticipated to use the dormitory-like rooms during their training at the FRTC. It is also anticipated that the FRTC will serve as a regional training facility within the Pacific region, thus providing a greater demand for accommodations on or near the campus. In addition, government/military and corporate demands are expected to be accommodated by the hotel for the FRTC and the nearby Schofield Barracks, Wheeler Army Airfield, the surrounding businesses located in MTP Phase I and visitors and guests of the Central Oʻahu region. A Market Demand Study prepared by Colliers in November 2020 confirmed that a hotel located within the FRTC would primarily accommodate visiting friends and family of the residential population of Schofield Barracks, Wheeler Army Airfield, Mililani, Waipio, and Wahiawā due to the proximity to the project site.

Business Mixed Use/Workforce Housing
The workforce housing development is anticipated to include 400 to 500 studio and one-bedroom units that will accommodate trainees and employees located at the FRTC along with the demands of the surrounding community. The business mixed use development may include office space, retail space, and/or light industrial uses. The Market Demand Study prepared by Colliers indicates that the development of workforce housing will support the overall need for housing in Oʻahu and will also drive the demand for retail development within the FRTC. The study also indicated that additional jobs would be created to support the operations of the FRTC, which will require additional office space within the area.

It is intended that proposals will be solicited from hotel developers, business mixed use developers and housing developers to build and lease these areas from the State, which will minimize the funding needed from the State to design, operate, and maintain these facilities, while still providing these beneficial uses to the surrounding community and the FRTC.

Infrastructure
To provide electrical power to the FRTC and to better accommodate the uses proposed at the site, the existing overhead Hawaiian Electric Company (HECO) transmission lines are proposed

to be relocated underground, and a new substation is proposed to be built in the northeastern portion of Parcel 057. In addition, the northeastern portion of Parcel 057 will be set aside for the development of future electrical infrastructure by HECO. A well is proposed to be drilled in the southwestern portion of Parcel 057 to provide water for the full development of the FRTC, in addition to a new water tank and booster pumping station.

2.4 Development Schedule

The construction of the FRTC is expected to commence upon issuance of the required State and County permits and approvals. Construction may start in 2023 pending all entitlements and permits are secured, and full buildout of the campus may be completed by 2038. The campus is proposed to be developed in six (6) phases spanning the next 15 years. A plan showing the preliminary phases and locations are provided in Figures 5 and 6.

Phase A (2023-2025) would include the construction and grading for the extension of Kahelu Avenue through Parcel 057 up to Parcel 039. A roundabout will be constructed to provide access to the future hotel and workforce housing developments, which may be constructed in future phases, as early as Phase B. Streetlights will also be installed along the roadways. Drainage and utilities including, but not limited to, sewer, water, electrical, communications, and cybersecurity will be constructed underground within the roadways in preparation for the full campus buildout in the future. A well will also be drilled near the western end of Parcel 057 to provide water for the campus. Two existing overhead HECO lines will be relocated underground. The existing Board of Water Supply (BWS) water lines and pipes located between Parcel 057 and Parcel 039 will be relocated to accommodate the project's roadway and utilities.

Phase B (2025-2027) would include the construction of the public administration building, security office, security gates, responder plaza, office buildings, warehouse buildings, and roadways. A portion of the parking structure will also be built, and will include the meeting rooms, indoor training area, and cafeteria. The construction in this phase would also include grading, drainage, and utilities in the roadways to serve the new construction in this phase.

Phase C (2028-2030) would include the completion of the parking structure and construction of office and warehouse buildings. Grading, drainage, and utilities would also be included to serve the new development in this phase.

Phase D (2031-2033) would include the construction of additional office and warehouse buildings, classrooms, storage, meeting rooms, outdoor training areas, and the EVOC track. Grading, drainage, and utilities would also be included to serve the new development in this phase.

Phase E (2034-2036) would complete the construction of office and warehouse buildings, classrooms, storage, and meeting rooms, and will include the construction of the exit gate and

roadway. Grading, drainage, and utilities would also be included to serve the new development in this phase.

Phase F (2037-2038) would include the development of Parcel 039 and complete the construction of the outdoor training areas, including the physical training towers, obstacle courses, and simulation training areas.

The areas identified as "Private Development or Other" in Figure 3 are for the proposed hotel/dormitory, workforce housing and business mixed use, and HECO substation and future electrical infrastructure. These areas are intended to be developed by private entities and can be developed as early as Phase B after the roadway, utilities, and infrastructure are developed in Phase A.

2.5 Estimated Cost of Construction

Cost estimates for the proposed project were generated using line-item estimates for major activities and materials, which were provided by the design team. The estimates were generated in terms of current 2022 dollars. Construction estimates for various phases of the project are fluid and subject to fluctuating commodity prices, global pandemic related supply chain disruptions, and the local construction industry climate. As a result, the cost estimates provided in this Draft EIS are presented as ranges. Table 2 shows the estimated cost ranges for the various phases, along with the estimated time frames of construction.

Table 2: Ranges of Estimated Construction Costs

Phase	Time Frame	Lower Bound ($ millions, 2022 dollars)	Upper Bound ($ millions, 2022 dollars)
A	2023 – 2025	$100	$150
B	2025 – 2027	$30	$50
C	2028 – 2030	$30	$50
D	2031 – 2033	$50	$70
E	2034 – 2036	$30	$50
F	2037 - 2038	$75	$100
Estimated Totals		**$315m**	**$470m**

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Figure 3: Site Plan of Parcel 057

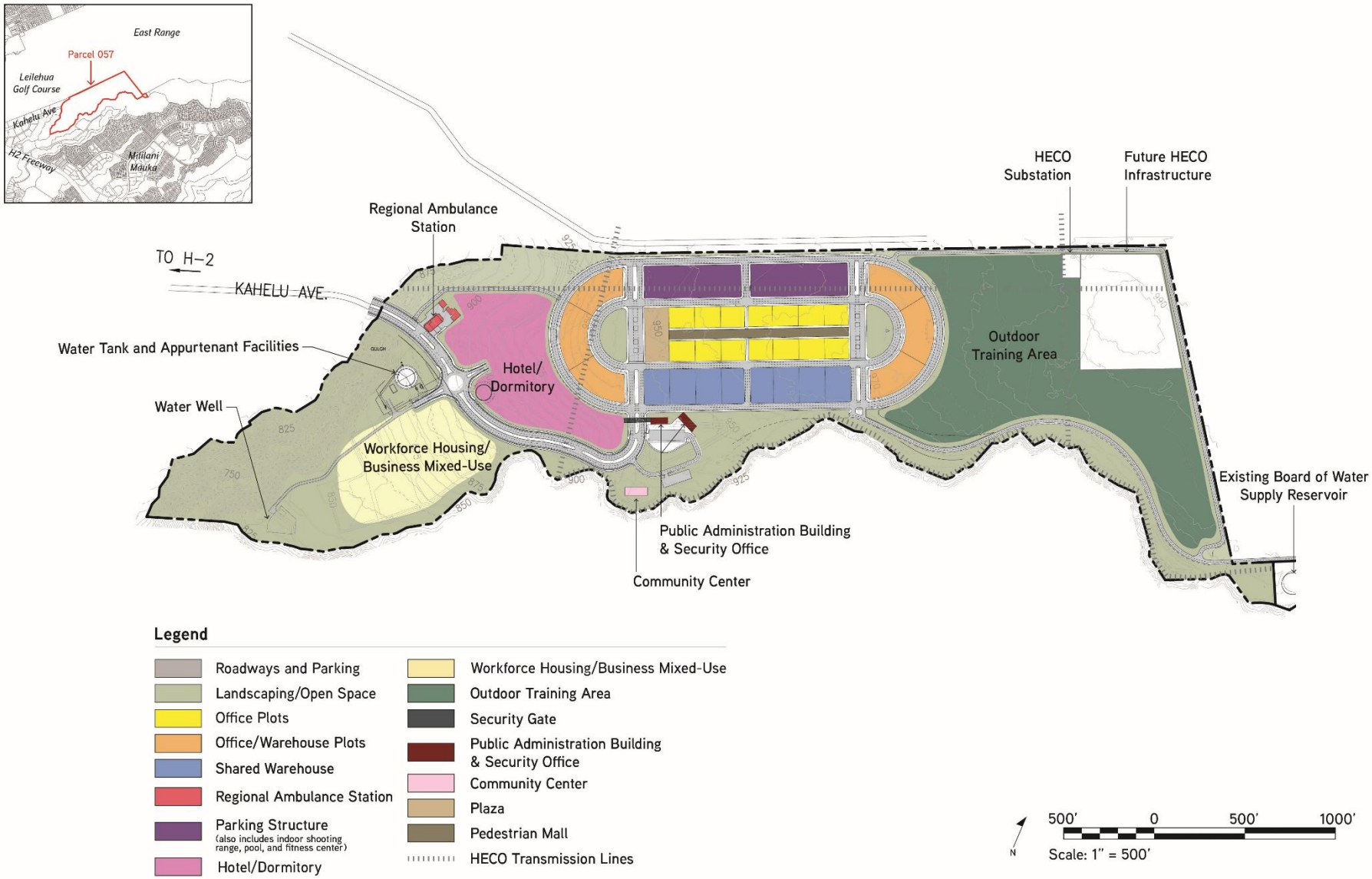


Figure 4: Site Plan of Parcel 039

Figure 5: Parcel 057 Phasing Plan

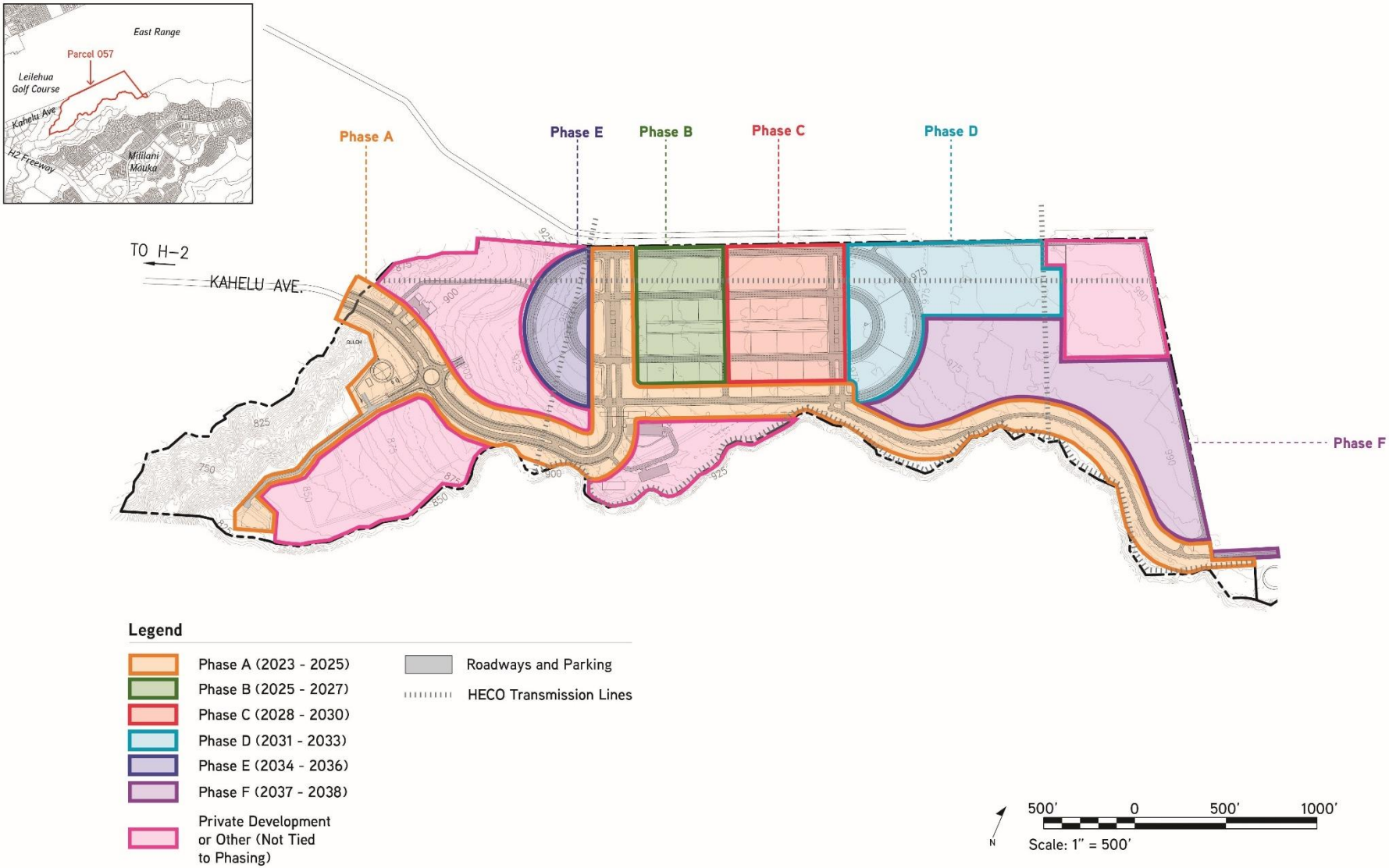
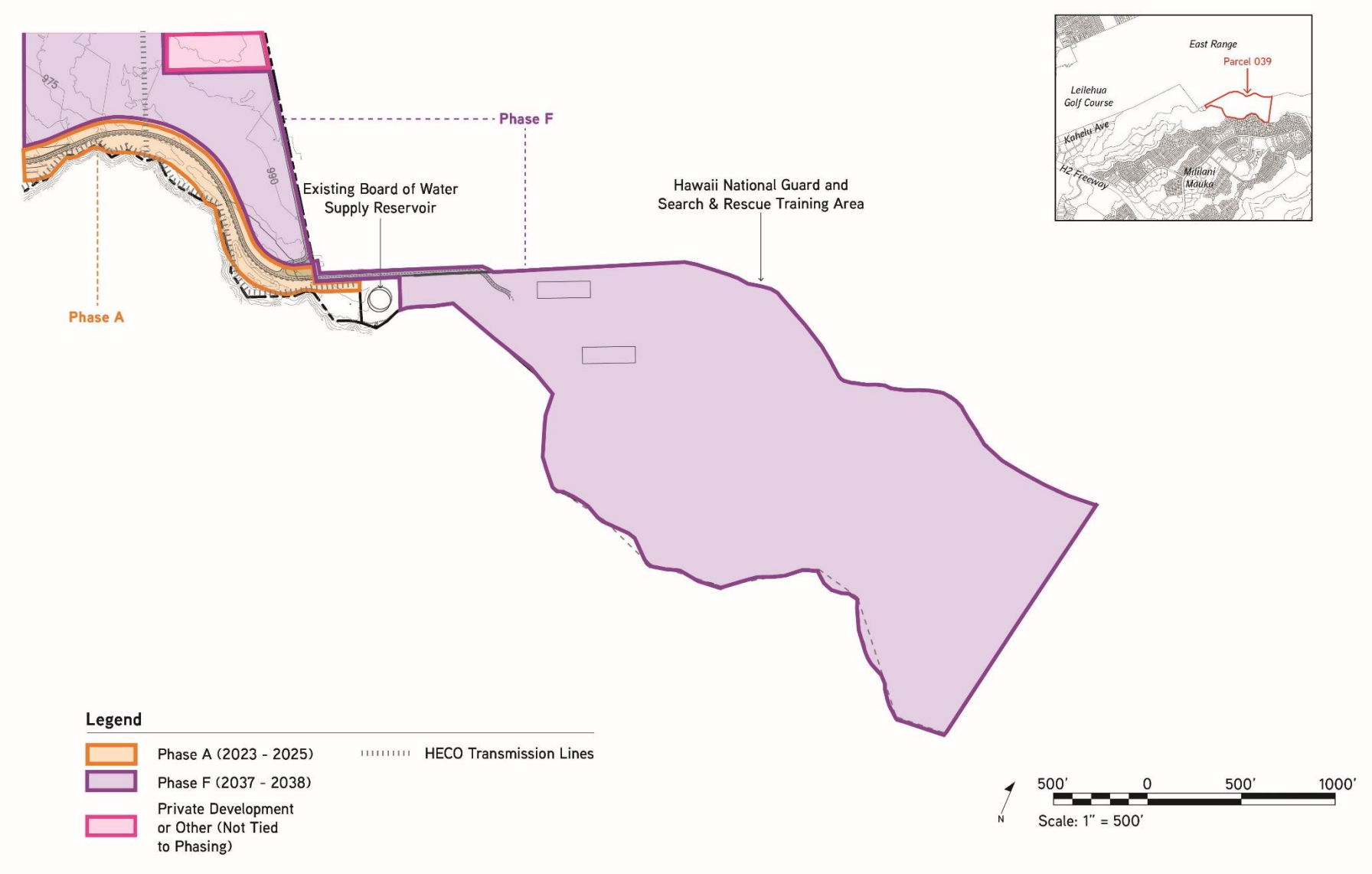


Figure 6: Parcel 039 Phasing Plan



2.6 Required Permits and Approvals

The list in Table 3 below identifies the anticipated major land use entitlements, permits, and approvals required for the project’s implementation.

Table 3: List of Potential Required Permits and Approvals

Entitlement, Permit or Approval	Approving Authority
Environmental Impact Statement Acceptance	Governor of Hawai‘i
State Land Use District Boundary Amendment to redesignate land within the Agricultural District (southwest portion of Parcel 057, and entirety of Parcel 039) to the Urban District;	State Land Use Commission (SLUC)
Amendment to the 1990 Decision & Order (D&O) to include the proposed FRTC land uses and related impacts;	SLUC
Amendment to D&O conditions related to “high tech uses”;	SLUC
Zone Change	City and County of Honolulu, Department of Planning and Permitting (DPP)
CO SCP Community Growth Boundary Amendment	DPP
Hawai‘i Revised Statutes, Chapter 6E Compliance	State of Hawai‘i, Department of Land and Natural Resources (DLNR), SHPD
National Pollutant Discharge Elimination System (NPDES) General Permits: Discharges of Storm Water Associated with Construction Activity, Authorizing Discharges of Hydrotesting Waters, and Authorizing Discharges Associated with Construction Activity Dewatering	State of Hawai‘i, Department of Health (DOH)
Community Noise Permit or Community Noise Variance	DOH
Grading, Grubbing, Trenching and Stockpiling Permits	DPP
Building Permits (Buildings, Electrical, Plumbing)	DPP
Sewer Connection Permit	DPP
Plan Review	Honolulu Fire Department
Water Connection Approval and New Well Permit	Board of Water Supply
Electrical Connection/Extension	Hawaiian Electric Company (HECO)

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3.0 EXISTING ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

3.1 Climate and Climate Change

The climate on the island of O‘ahu can be characterized as semitropical and has small seasonal variations in temperature; daily temperature ranges from high 70s to mid-60s (degrees Fahrenheit) in the winter, and mid-80s to low 70s during the summer months. The average annual rainfall at the project site is about 64 inches (Giambelluca et al., 2013). Winds are generally mild with low wind speeds in the morning and northeasterly trade winds in the late afternoon. The average temperature recorded at the nearby Schofield station is 71.5° Fahrenheit (F).

3.1.1 Climate Change

The rapid build-up of greenhouse gases from human activity, particularly carbon dioxide but also methane, nitrous oxide, and fluorinated gases, is causing global warming and climate disruption (Hawai'i Climate Mitigation and Adaptation Commission, 2017). Global atmosphere and ocean warming is leading to glacier mass loss and ocean thermal expansion and is causing an acceleration in global mean sea level rise. The islands of Hawai‘i are uniquely exposed to the impacts of climate change and sea level rise. Many existing developments including hotels, houses, roads, beach parks, public facilities, and infrastructure have been located close to hazard prone and low-lying shorelines. In an effort to counteract the impacts of erosion on these developments, hard structures such as seawalls have been constructed along the shoreline, which is also known as shoreline hardening. However, shoreline hardening has led to beach narrowing and eventual loss on chronically retreating shorelines, which is inevitable with sea level rise (Tavares et al., 2020). Seventy percent of the beaches on O‘ahu, Maui, and Kauai are experiencing an erosional trend (Fletcher et al., 2012). Shoreline hardening accelerates erosion on adjacent lands and limits the natural dynamic behavior of the environment. In addition, many of the shoreline hardening structures thought to provide permanent protection are failing from undermining and over wash by waves.

Sea level rise will multiply the impacts from coastal hazards, resulting in the acceleration of shoreline erosion, increase in chronic and event-based flooding along the shoreline and in low lying areas, and impediment of stormwater drainage. *The Hawai‘i Sea Level Rise Vulnerability and Adaptation Report* modeled exposure to chronic coastal flooding and erosion using projections from the *Intergovernmental Panel on Climate Change (IPCC) 5th Assessment Report* (IPCC, 2013) where the high-end scenario was up to 3.2-ft of sea level rise by the end of the century (Courtney et al., 2020). For O‘ahu, the sea level rise exposure area (SLR-XA) with 3.2 ft. of sea level rise is based on modeling passive inundation, coastal erosion, and annual high wave runup. The National Oceanic and Atmospheric Administration (NOAA) (Sweet et al., 2017)

updated global and regional projections based on a review of the most up-to-date scientific literature on sea level rise (Courtney et al., 2020) and identified 3 ft. of sea level rise in this century as a mid-range scenario, and a “physically plausible” upper-end projection of 6 to 8 ft. of sea level rise by the end of this century. The City and County of Honolulu Climate Commission issued sea level rise guidance for the county to use for areas exposed to 3.2 ft. of sea level rise as a planning benchmark for most development, with consideration of 6 ft. of sea level rise as a planning benchmark for critical infrastructure with long expected lifespans and low risk tolerance (Climate Change Commission, 2018).

Potential Impacts and Mitigation Measures

The proposed development of the FRTC is not anticipated to have an adverse effect on the region’s climate. The development of the FRTC will result in short-term irrevocable release of greenhouse gas (GHG) emissions from construction activities, which is further described in Section 3.7. Based on conservative assumptions, the maximum criteria pollutant annual emissions for day-to-day operations at the FRTC would not exceed 60.5 tons of carbon monoxide (CO) per year but would require a minor source permit by the DOH Clean Air Branch. It is anticipated that the projected amount of GHGs emitted during the day-to-day operations of the FRTC will comply with all Hawai‘i Air Quality Standards and National Ambient Air Quality Standards (NAAQS) requirements as it will have a low generation of ground-level ozone.

The proposed location of the FRTC is located within the Central O‘ahu region and is approximately 10 miles away from the nearest shoreline. The FRTC presents an ideal first step for the federal, state, and county first responder agencies to plan for the impending impacts of climate change and sea level rise as it relates to their facilities. Based on the sea level rise guidance issued by the City and County of Honolulu Climate Commission, agencies should be considering six feet of sea level rise for critical infrastructure. Many of the first responder agencies’ existing facilities are located near shorelines and/or areas that are vulnerable to inundation by flooding, tsunamis, and sea level rise. Relocating the first responder agencies to the FRTC would assure that the critical infrastructure and facilities needed by the agencies to carry out their operations will be able to continue without hinderance by flooding, sea level rise, and other coastal hazards.

3.2 Geology and Topography

Parcel 057 is nearly level to moderately sloping; from east to west the property elevations decrease from approximately 1,075 ft. above mean sea level (amsl) to approximately 880 ft. amsl. The site deeply slopes into Waikakalaua Gulch at the southern boundary. Parcel 039 also has deep slopes; from north to south towards the Waikakalaua Stream the elevation decreases from 1,100 ft. amsl to 800 ft. amsl, and then slopes back up to 1,000 ft. amsl on the southern boundary. Waikakalaua Stream runs through Parcel 039 and is designated as “perennial” according to the State Department of Land and Natural Resources, Division of Aquatic Resources “DAR Streams” GIS layer.

The proposed FRTC will require excavation and grading for the development of the roadways, utilities, and facilities; however, it is not anticipated to adversely impact any significant landforms in the area. The grading of the project site will be done in conformance with the County's Grading Ordinance. Given the topography of the site, a significant amount of grading will be required along with the use of site retaining walls and/or engineered slopes. The total excavation of the project site is anticipated to be approximately 240,560 cubic yards, and the anticipated total embankment is approximately 265,200 cubic yards, giving a total net embankment of 24,640 cubic yards. Development in the steep terrain of Waikakalaua Gulch, located on the southwest end of Parcel 057, will be avoided.

As the disturbed area will be greater than one acre, a National Pollution Discharge Elimination System (NPDES) Permit will be required. Grading activities will follow Best Management Practices (BMPs) in compliance with the NPDES Permit. The contractor would submit a site-specific construction BMP Plan to the State Department of Health for approval before grading commences. Construction BMPs may include, but not be limited to, a combination of stabilized construction egress, dust control, filter socks, and drain inlet protection. An Erosion Control Plan would also be prepared by the contractor and approved by the County.

3.3 Soils

According to the U.S. Department of Agriculture, Natural Resources Conservation Service Web Soil Survey, the majority of Parcel 057 consists of Leilehua silty clay (LeB and LeC) soils (see Figure 7); LeB has 2% to 6% slopes while LeC has 6% to 12% slopes. Leilehua soil series are well drained and extremely acidic soils that are gently sloping to moderately sloping, and used for sugarcane, pineapple and pasture (NRCS). Helemano silty clay (HLMG) soil has 30% to 90% slopes and is found on the western site boundary near Kahelu Avenue and is also the predominant soil found on Parcel 039. Helemano soil series are steep to extremely steep, and used for pasture, woodland, and wildlife habitat.

In Hawai'i, three classification systems are commonly used to rate soils: 1) Land Capability Grouping, 2) Agricultural Lands of Importance to the State of Hawai'i, and 3) Overall Productivity Rating. The following is a description of the project site's soils' rating under each classification system.

Land Capability Grouping, U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) Rating

The 1972 Land Capability Grouping by the NRCS groups soils primarily based on their capability to produce common cultivated crops and pasture plants without deteriorating over a long period of time. The capability class is the broadest category in the classification system and contains eight levels, ranging from the highest classification level "Class I", which indicates soils have slight limitations, to the lowest level "Class VIII", which are soils that have limitations that

preclude their use for commercial plant production. The capability subclass is the second category in the land classification system that contains class codes “e”, “w”, “s”, and “c”.

Soil types LeB and LeC fall within Class IIe and Class IIIe, respectively. Class II soils have moderate limitations that reduce the choice of plants or require moderate conservation practices, while Class III soils have severe limitations that reduce the choice of plants, require special conservation practices, or both. Subclass e soils are subject to moderate erosion if they are cultivated and not protected.

Soil type HLMG falls within Class VIIe. Class VII soils have very severe limitations that make them unsuitable for cultivation, and which restrict their use largely to pasture or range, woodland, or wildlife habitat.

Agricultural Lands of Importance in the State of Hawai‘i (ALISH)

In 1977, the NRCS, the University of Hawai‘i College of Tropical Agriculture and Human Resources (CTAHR), and the State Department of Agriculture (DOA) developed the ALISH rating system as part of a national effort to inventory important farmlands. Lands that were not considered for classification within the system are developed urban lands over ten acres, public use lands, forest reserves, lands with slopes greater than 35%, and military installations except undeveloped areas over ten acres. The system classifies land into three broad categories: (a) Prime agricultural land, which is land that is best-suited for the production of crops because of its ability to sustain high yields with relatively little input and with the least damage to the environment; (b) Unique agricultural land which is non-Prime agricultural land used for the production of specific high-value crops; and (c) Other agricultural land which is non-Prime and non-Unique agricultural land that is important to the production of crops.

Parcel 057 was originally rated as Prime agricultural land (see Figure 8); however, this parcel is no longer rated since being designated within the State Land Use Urban District. Parcel 039 is considered unclassified, which indicates the land has poor soils for growing crops.

Overall Productivity Rating, UH Land Study Bureau (LSB)

In 1972, the UH Land Study Bureau (LSB) developed the Overall Productivity Rating, which contains five levels; “A” represents the class of highest productivity, and “E” is the class of lowest productivity. Land with LeB and LeC soils in Parcel 057 were originally rated class B, however they are no longer rated since they are now designated within the Urban District. Lands with HLMG soil are rated class E, which are lands unsuitable for growing crops.

Important Agricultural Lands on O‘ahu

On June 5, 2019, the Honolulu City Council adopted Resolution No. 18-233, CD1, FD1, which recommends the designation of certain lands for Important Agricultural Lands (IAL) on O‘ahu, as required by Article XI, Section 3 of the State Constitution, and Chapter 205, HRS to ensure that O‘ahu’s high quality farm land is protected and preserved for long-term agricultural use.

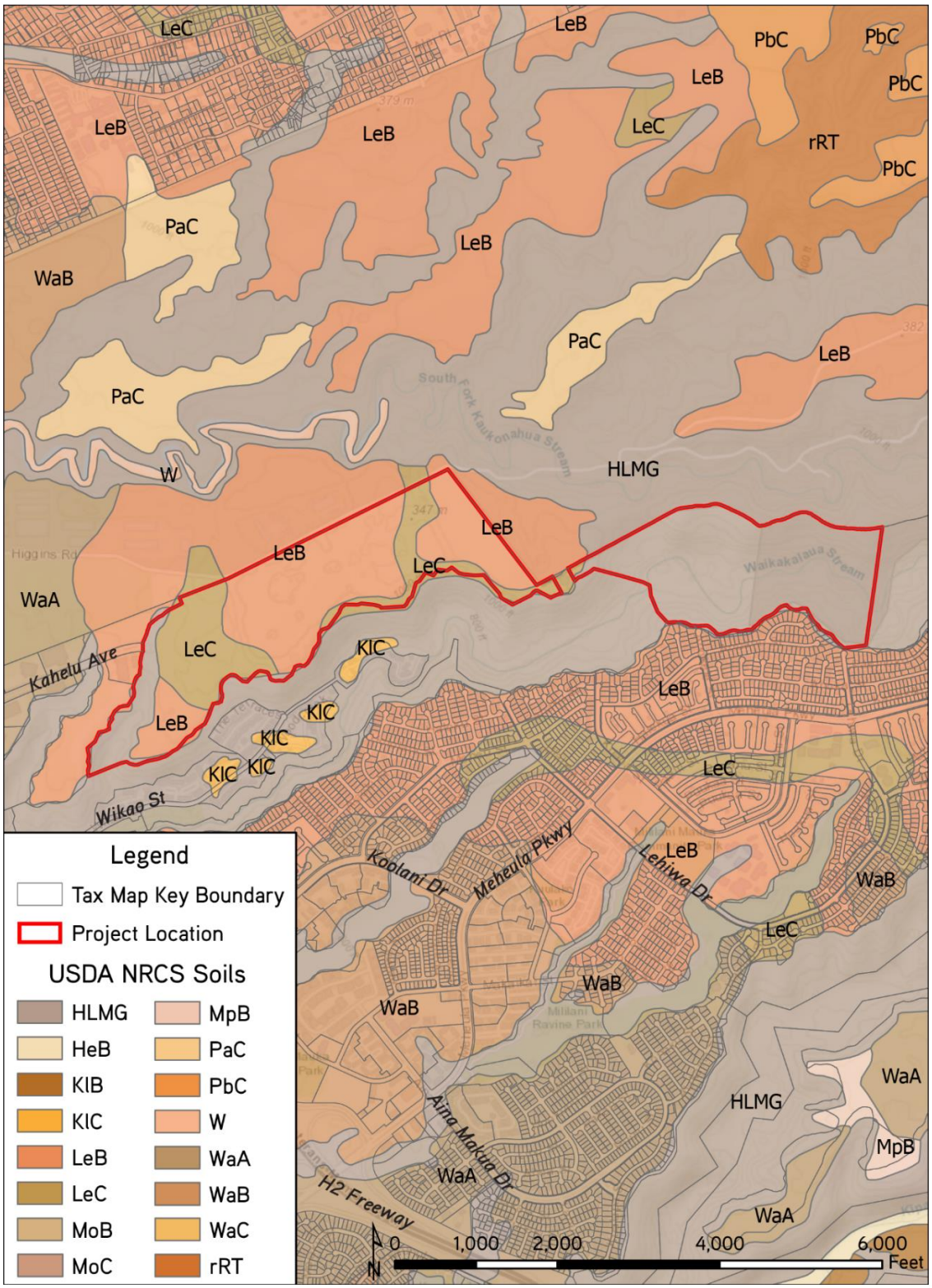
IAL are defined as lands that are 1) capable of producing sustained high agricultural yields when treated and managed according to accepted farming methods and technology; 2) contribute to the State's economic base and produce agricultural commodities for export or local consumption; or 3) are needed to promote the expansion of agricultural activities and income for the future, even if currently not in production.

Based on the IAL Recommendations Map prepared by the DPP, the FRTC project site is not within lands recommended to be designated as IAL.

Potential Impacts and Mitigation Measures

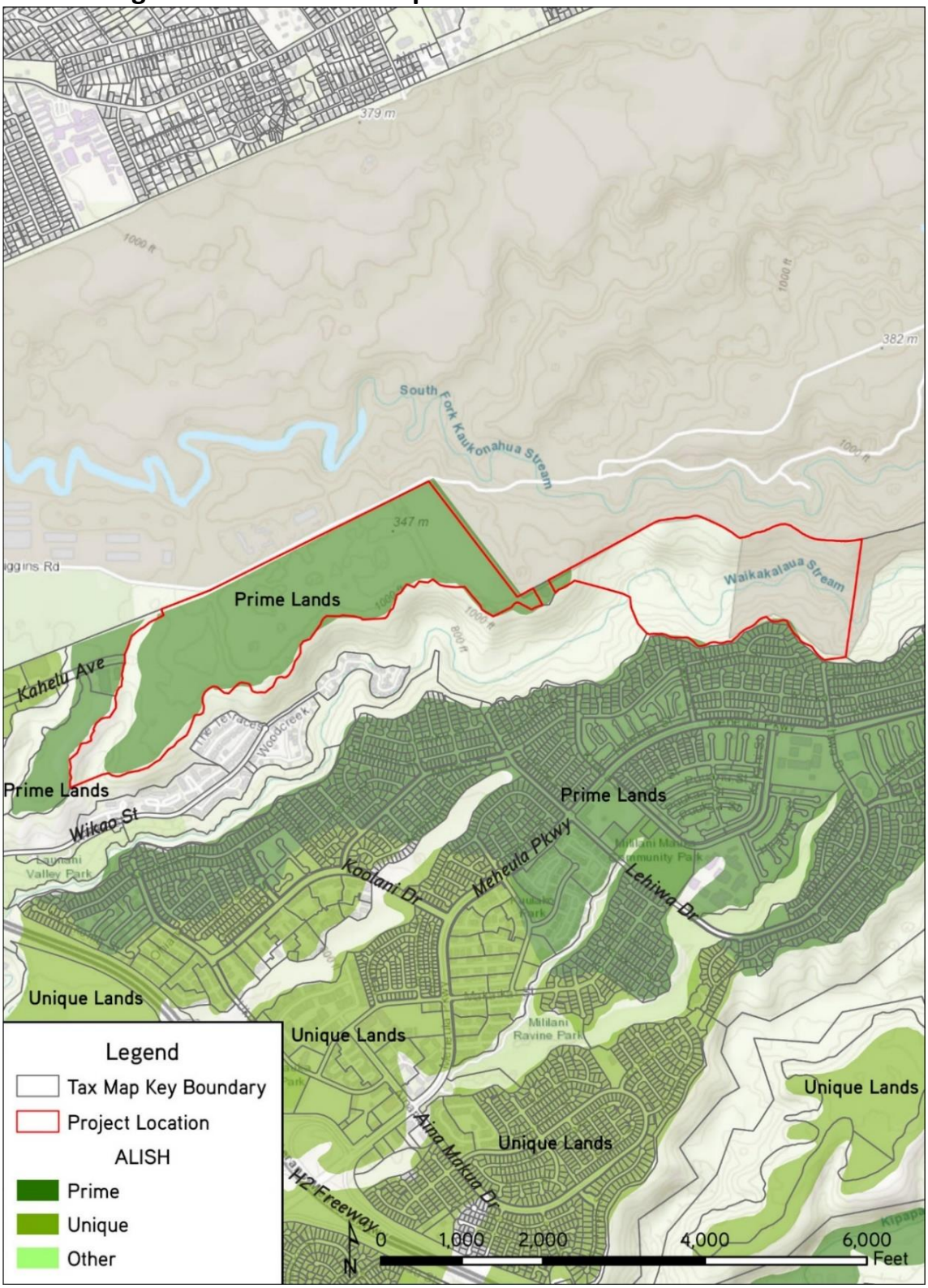
The proposed project is not anticipated to have an adverse impact on the soils located within the project site. Although Parcel 057 contains good soils (LeB and LeC), the land is no longer suitable for farming or ranching due to most of the parcel being designated within the State Land Use Urban District, no access to irrigation water, dense forest of mature trees, and steep slopes in the areas designated within the Agricultural District. Parcel 039 contains HLMG soils, lacks access to irrigation water, and consists of a dense forest of mature trees, all of which make it generally unsuitable for farming or ranching.

Figure 7: NRCS Soils Map



Source: U.S. Department of Agriculture, Natural Resources Conservation Service Web Soil Survey

Figure 8: Agricultural Lands of Importance in the State of Hawai'i



Source: State of Hawai'i, Department of Agriculture

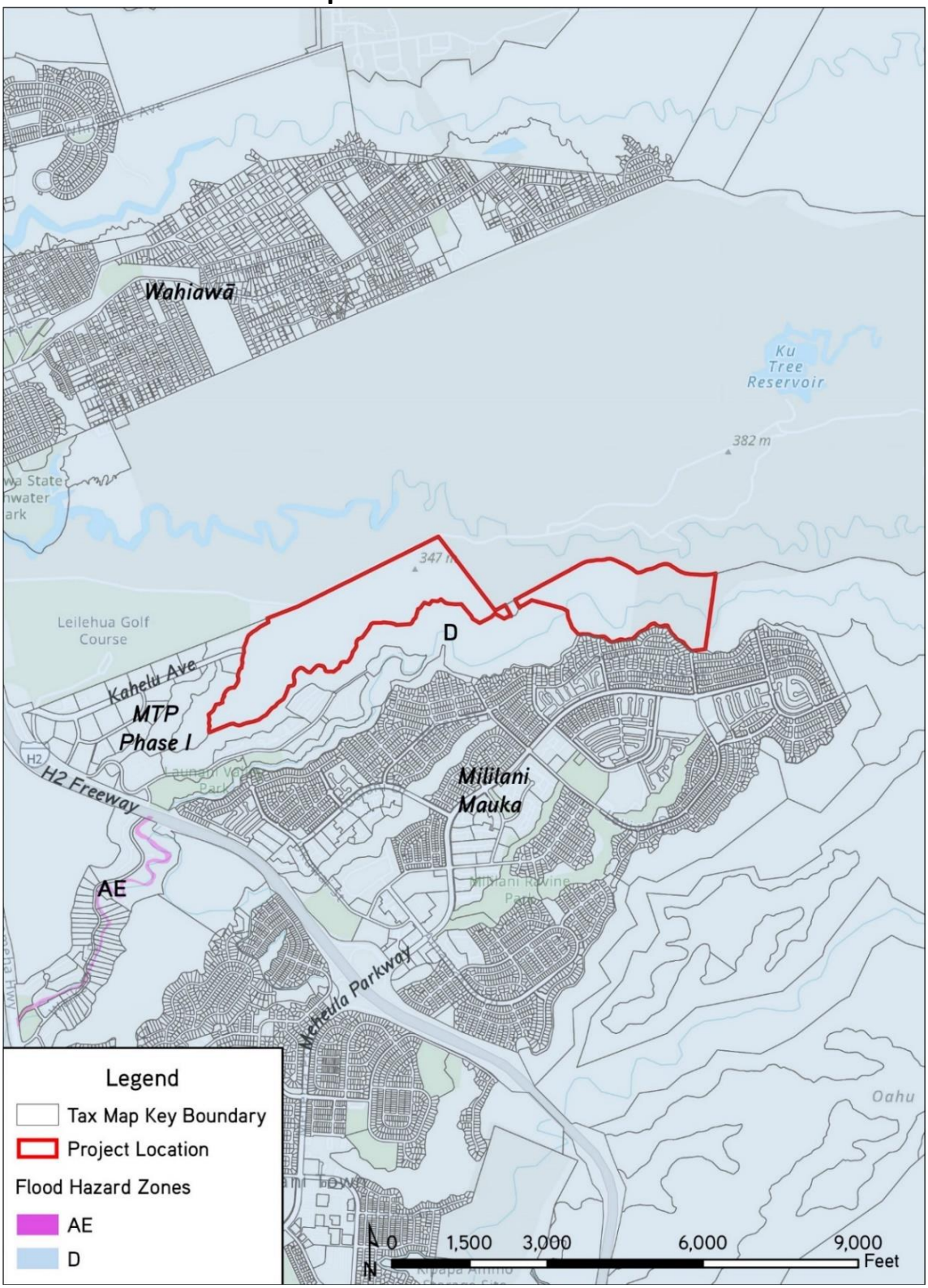
3.4 Natural Hazards

The site is within the Federal Emergency Management Agency's (FEMA) Flood Zone D according to FEMA's Flood Insurance Rate Map (see Figure 9) Flood Zone D corresponds to areas where there are possible but undetermined flood hazards and areas where no analysis of flood hazards has been conducted (FEMA). The proposed site is outside of the tsunami evacuation zone and the sea level rise exposure area, as it is located 10 miles away from the nearest coastline. The southern portions of both Parcels 057 and 039 are within zones designated as high risk from wild-land fires, per the DLNR-DOFAW's Communities at Risk from Wild-land Fires map (see Figure 10).

Potential Impacts and Mitigation Measures

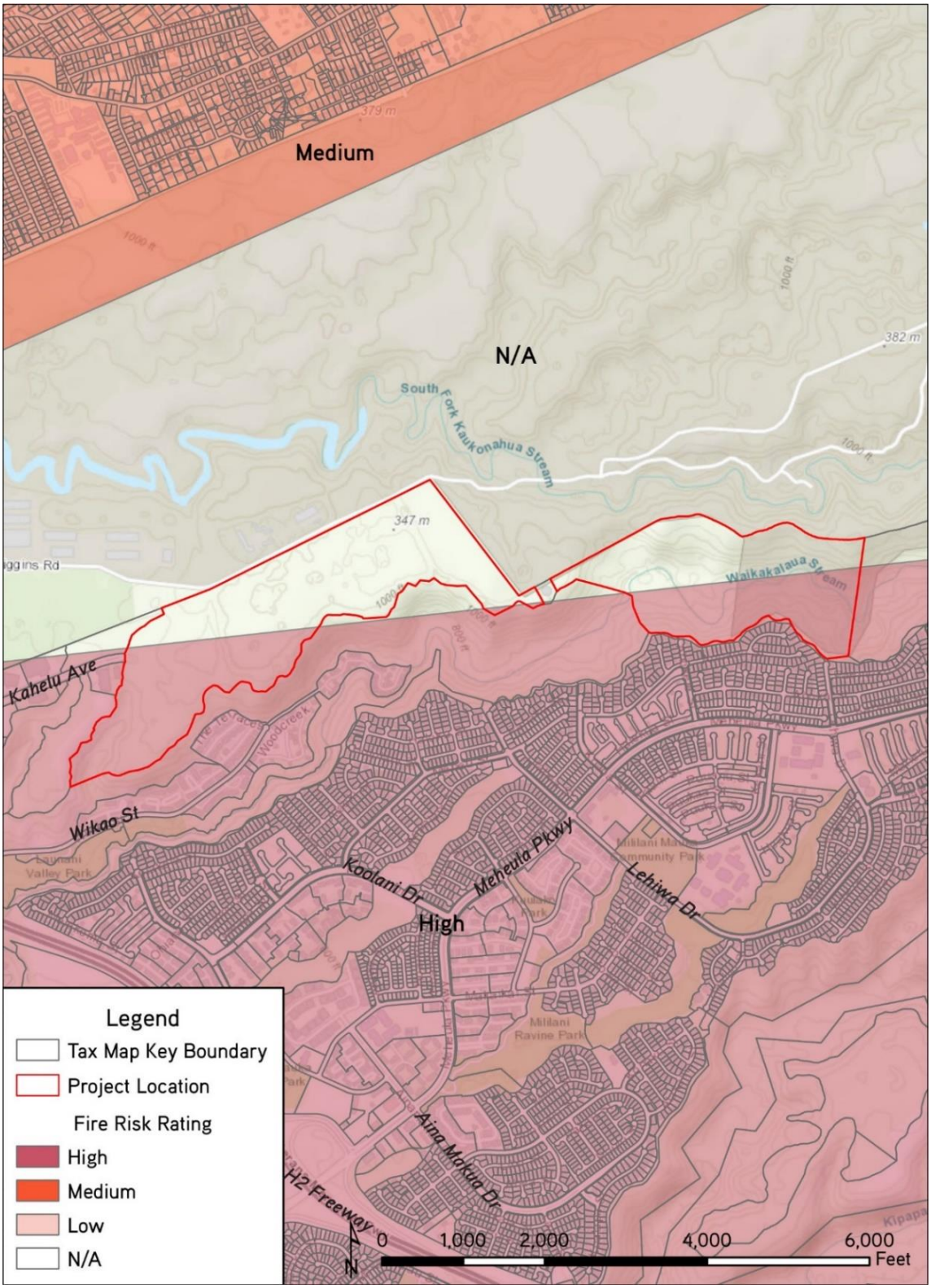
The proposed FRTC is not anticipated to be adversely affected by flood hazards, tsunamis, sea level rise, and/or coastal hazards. The proposed site for the FRTC was chosen for its central and inland location as the existing first responder agencies' facilities are within or near coastal areas and/or areas that may be adversely affected by the impacts of climate change.

Figure 9: Flood Hazard Map



Source: Federal Emergency Management Agency

Figure 10: Communities at Risk from Wild-land Fires



Source: State of Hawai'i, Department of Land and Natural Resources, Division of Forestry and Wildlife

3.5 Ground, Surface, and Marine Waters

3.5.1 Surface and Marine Waters

The nearest surface water bodies to the project site are the Waikakalaua Stream, which runs through Parcel 039 and south of the boundary of Parcel 057, and the South Fork Kaukonahua Stream, which runs offsite near the northern boundary of both parcels. Both streams are part of the Waiawa surface water hydrologic unit (SWHU 3061) according to the State Commission on Water Resource Management (CWRM). Both streams are classified as Class 2 waters by the DOH and are therefore protected for the use of recreational purposes and the support and propagation of aquatic life.

According to the U.S. Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI) dataset, the Waikakalaua Stream and South Fork Kaukonahua are classified as a riverine system, upper perennial subsystem, unconsolidated bottom class, and permanently flooded water regime (R3UBH). This classification includes wetlands and deep-water habitats where some water covers the substrate throughout the year. A portion of the South Fork Kaukonahua stream north of the BWS East Pump Reservoir parcel (between Parcel 057 and 039) is considered a palustrine system, unconsolidated bottom, permanently flooded, diked/impounded (Pugh) according to the NWI.

The project site is not within or in near proximity to any marine or coastal waters.

3.5.2 Groundwater

The project site is located within the Pearl Harbor Sector, Waipahu-Waiawa System and the Central Aquifer Sector, Wahiawā System. The boundary delineated by the CWRM between the Wahiawā (High Level) Aquifer to the north and the Waipahu-Waiawa (Basal) Aquifer crosses from west to east through the project site. The Wahiawā Aquifer and Waipahu-Waiawa Aquifer currently have an estimated sustainable yield of 23 million gallons per day (MGD) and 104 MGD, respectively. The issued allocations for the Wahiawā Aquifer totals 22.978 MGD, while the total allocated use for wells in the Waipahu-Waiawa Aquifer is 85.465 MGD. Groundwater in the Wahiawā Aquifer stands at approximately 270 to 280 feet above sea level, while groundwater in the Waipahu-Waiawa Aquifer stands at about 25 to 30 feet above sea level.

Potential Impacts and Mitigation Measures

A *Hydrologic Investigation of the Source of Water Supply for the Proposed FRTC* was prepared by Tom Nance Water Resource Engineering, Inc. (TNWRE) and is included in Appendix B. The investigation assessed the possible sources of water supply for the FRTC based on consultation with the BWS. One alternative that was considered included the use of BWS' Wahiawā wells to supply the projected FRTC water demand. This alternative was not further considered since an allocation for the entire project cannot be obtained in advance, and it was not recommended to rely on the current available supply as it may be allocated to other developments before full

buildout and occupation of the FRTC. The second alternative included drilling an onsite well to be dedicated to BWS near the existing Wahiawā 994' reservoir. The third alternative included drilling two wells for a stand-alone, privately owned and operated system, which would ensure 100% backup capacity in the event that one well pump is out of service for repair or replacement.

Based on the assessment of the alternatives, the second alternative is being pursued for this project. The CWRM has set the substantial yield of the Waipahu-Waiawa Aquifer System at 104 MGD, and the current total allocated use in the aquifer is 85.465 MGD, which indicates that there is adequate supply for new wells for the FRTC. The Wahiawā Aquifer System has a sustainable yield of 23 MGD but has issued allocations totaling 22.978 MGD; the unallocated available supply is insufficient for the FRTC. Therefore, rather than drilling a well near the current Wahiawā 994' reservoir, the project proposes to drill a well in the Waipahu-Waiawa Aquifer System in the southwest corner of Parcel 057. If dedicated to BWS, a pipeline from there to connect to BWS' existing pipeline in the Kahelu Avenue road extension could be sized to provide adequate chlorine contact time. In addition, it is anticipated that a Water Use Permit could be obtained for the well. The BWS will continue to be consulted throughout the EIS process to refine the details and design for the wells and source of water supply for the FRTC.

As part of the Draft EIS, a *Water Resource Impact Report* was prepared by Stantec Consulting Services Inc. ("Stantec") to assess the project's impact to ground, surface, and marine waters (see Appendix C). Based on the report, it is anticipated that there will not be any long-term significant impacts on nearby surface and/or coastal waters during construction and operations of the FRTC. The project proposes to include an access road to Parcel 039 as well as office and warehouse space. A majority of the parcel will remain undeveloped and will be used as a Search and Rescue Training Area. The Waikakalaua Stream will not be affected or impacted by the development of the proposed project or the intended use of the parcel.

During construction, there is potential for water quality impacts due to sediments being transported by runoff, however these impacts can be mitigated by proper implementation of best management practices (BMPs). BMPs may include, but are not limited to, temporary sediment basins, silt fences, dust fences, slope protection, stabilized construction vehicle entrance, grate inlet protection, and use of compost filter socks. Permanent sediment control measures will be used once construction is completed.

A Construction General Permit under the NPDES program for storm water runoff from construction sites will be required. Discharges related to construction or operation activities will comply with HAR §11-54 Water Quality Standards and §11-55 Water Pollution Control. All grading, excavation, and stockpiling activities will follow County ordinances. Stormwater not captured for water reuse will be retained on site and released at pre-development levels via proper channels of drainage.

3.6 Flora and Fauna

As part of the Draft EIS, a *Biological Survey Report* was prepared by H.T. Harvey & Associates (HTH) to identify and document biological issues of concern, including the presence of any State or Federally listed threatened or endangered species, candidate species for listing, and sensitive habitats. Based on the USFWS NWI Mapper, the project site does not overlap with designated or proposed critical habitat for any federally endangered or threatened species.

HTH conducted a pedestrian reconnaissance-level biological survey of both the east and west parcels, which were done on August 25, 2021, and August 31, 2021, respectively. Areas that were not safely accessible, including densely vegetated areas and steep portions of the gulch, were not surveyed. HTH biologists recorded observed plants and vegetation type, especially looking out for the presence of any native taxa that might be present in the project site. Vegetation on inaccessible gulch slopes were scanned from vantage points along the trails. Visual and auditory detection were used to record observations of birds in the project site and ten eight-minute point counts were conducted between 6:45AM and 12:25PM to count all birds seen or heard by a single observer from a fixed point. The number of species and individuals of each species detected at each count station were the metrics used to provide a qualitative ranking of relative abundance of birds observed in the project area. Figure 11 shows the vegetation data gathering locations and the bird point count stations.

3.6.1 Flora

The plant species recorded during the biological reconnaissance survey are indicative of the season (i.e., rainy) and the environmental conditions at the time of the survey. No state or federally listed threatened, endangered, or candidates for listing plant species, and no rare native Hawaiian plant species, were observed in the accessible parts of the project site. A total of 84 plant species were observed in the project area; 76 are non-native species, six are native species, and two are Polynesian introductions. A list of all the plant species observed during the survey is included in the Biological Survey Report in Appendix D.

Figure 11: Data Gathering Locations

Source: HTH

The most abundant species found in Parcel 039 were albizia, swamp mahogany, strawberry guava, inkberry, guinea grass, Koster's curse, and the indigenous uluhe (*Dicranopteris linearis*). Near the western portion of the parcel the vegetation on the top of the gulch was composed of weedy tree and shrub species such as inkberry, strawberry guava, and juniperberry under a semi-open canopy dominated by mostly albizia and swamp mahogany trees. Ground vegetation consisted of guinea grass, wedelia, white shrimp plant (*Justicia betonica*) and inkberry seedlings. In the southern half of the parcel, the stream meanders in the east to west direction and in some areas is heavily vegetated by herbaceous weedy species such as yellow ginger (*Hedychium lavescens*), heliconia (*Heliconia sp*.), Koster's curse, basket grass (*Oplismenus hirtellus*), honohono (*Commelina diffusa*), milkwort (*Polygala paniculata*), and maile pilau (*Paederia foetida).* Dense bamboo (*Bambusa sp.)* clusters characterized the stream bank in many areas on the central and eastern stretches of the stream. A few endemic koa (*Acacia koa)* trees were spotted in the gulch from a vantage point near the transmission poles.

3.6.2 Fauna

During the point-count surveys, HTH identified 86 individual birds comprising of 11 species. No threatened, endangered, or rare birds were observed in the project area; all 11 species observed are alien to the State. The red-billed leiothrix (*Leiothrix lutea)* was the most abundant species observed in the project area and was commonly spotted on albizia trees and where strawberry guava trees dominated the area. Other commonly spotted species were red-vented bulbuls (*Pycnonotus cafer*) and warbling white-eyes (*Zosterops japonicas*). White-rumped shamas (*Copsychus malabaricus*), red-crested cardinals (*Paroaria coronate),* and zebra doves (*Geopelia striata*) were observed foraging on the ground along the dirt road. Four of the observed species are on the State’s list of injurious wildlife species and are known to be harmful to agriculture, aquaculture, or indigenous wildlife or plants, including the white-rumped shama, red-vented bulbul, spotted dove (*Streptopelia chinensis)*, and warbling white-eye. No non-native mammal species were observed during the surveys, although feral pig wallows, scat, and rooting signs were commonly spotted. A list of all the bird species observed during the reconnaissance level survey is included in Appendix D.

Potential Impacts and Mitigation Measures

Flora

The proposed FRTC is not likely to result in a substantial adverse impact on any plant species that is State or Federally listed as threatened or endangered, candidate species for listing as endangered, or rare native Hawaiian plant species. The plants that were observed by HTH were predominantly alien species or Polynesian introductions. A majority of Parcel 057 consists of relatively flat terrain that used to be under pineapple cultivation. Previous surveys conducted in the 1985 Final EIS noted that the “wild pineapple plants still constitute a vast majority of the plants that are present there” with aggressive exotic species such as strawberry guava, Christmas berry, lantana, and molasses grass beginning to invade the fallow fields. Other than a few scattered kukui (*Aleurites moluccana)* trees, no native plant species were observed in Parcel 057. The removal of the kukui trees for the development of the FRTC is not likely to have a significant impact on the local population or species persistence, as this species is widespread on O‘ahu as well as elsewhere in Hawai‘i.

Removal of the native plant species observed on Parcel 039 including koa, kukui, uluhe, palaa (*Sphenomeris chinensis)*, uhaloa (*Waltheria indica)* , and ukiuki (*Dianella sandwicensis*), are not anticipated to have a significant impact on the local population or species persistence as these species are widespread on O‘ahu as well as elsewhere in Hawai‘i. While none of these native species are protected, koa and uluhe are listed by the State to be among the native plants of greatest conservation need due to the important habitat they provide or because they are a dominant native plant in the vegetation community. Uluhe was abundant in the understory on the hillsides in areas in the north, and a few koa trees were seen via binoculars on the lower gulch slopes in the central portion of the parcel. HTH recommends that these native plants be preserved in place, to the extent feasible. During the reconnaissance level survey, many areas

were scanned using binoculars from vantage points along the trails. As such, more native plant species that were not documented could exist in this parcel, particularly in the inaccessible areas such as the steep stream and hillsides. Other than the northwestern portion of the parcel that are planned for office and warehouse space, the remaining areas of the parcel will be left intact with no planned development. Therefore, presence of any rare plant species, if any, is not expected to be impacted by the project.

The project design specifications for revegetation of areas disturbed during or after construction, as well as any landscaping planned for the FRTC, will include the use of native plants to the extent feasible. Potential native plants that are ecologically suitable for revegetation in mesic habitat at the project site include koa, hala (*Pandanus tectorius),* lama *(Diospyros sandwicensis*), papala (*Charpentiera obovata*), mamaki (*Pipturus albidus*), and O'ahu sedge (*Carex wahuensis*). If native plants do not meet the landscape design objectives, plants with a low risk of becoming invasive may be substituted.

Potential impacts from construction activities include the introduction and spread of invasive species. The project will incorporate specifications that will include BMPs to minimize introduction and spread of invasive species in the project area. BMPs may include the following:

- All construction equipment and vehicles should arrive at the Project site the first time clean and free of: any soil; plants or plant parts, including seeds; insects, including eggs; and reptiles and amphibians, including their eggs. Similarly, all construction equipment and vehicles should also be cleaned after use on the Project and before leaving to another site.
- All materials imported to the Project site, including gravel, soil, rock, and sand, should be free of invasive plants. Invasive species found on the stockpile should be removed either chemically or mechanically.
- Only plants grown on O'ahu should be used for landscaping purposes. If locally grown plants are unavailable, then imported plants may be used, but they should be thoroughly inspected or quarantined if necessary to ensure that they are free from invasive pests such as the coconut coqui frogs (*Eleutherodactylus coqui*) and little fire ants (*Wasmannia auropunctata*), and invasive plant seeds and seedlings that could arrive inadvertently.
- Only weed-free seed mixtures should be used for hydroseeding and hydromulching on the project site. A qualified botanist should inspect the seeded areas a minimum of 60 days after the hydroseed/hydromulch is applied. Any species of plant other than those intended to be in the hydroseed/hydromulch should be removed. In particular, plant species that are not known to occur on O'ahu and those that are actively being controlled on the island should be removed.

Fauna

No native wildlife species were observed in the project area. Pueo *(Asio flammeus sandwichensis)*, or the Hawaiian short-eared, is State listed as endangered on O'ahu. It is known

to use a variety of habitats including wet and dry forests but is most commonly seen in open habitats such as grassland, shrublands, and even in parks in urban areas. If pueo are seen at the project site, DLNR will be notified and consulted to assess the potential impacts on pueo from project implementation and to incorporate measures to avoid and minimize impacts.

The project area does not provide suitable habitat for endangered Hawaiian waterbirds, although they may occur in the vicinity of the project area. Should future project construction activities involve temporary or permanent standing water, including excavation or grading for construction or roadwork, then it is likely to attract endangered Hawaiian waterbirds, particularly the Hawaiian stilt which is known to nest in sub-optimal conditions such as ponding water features. The USFWS and DLNR will be consulted to evaluate the potential impacts on listed waterbirds should there be temporary or permanent standing water constructed on the project site.

Surveys to detect Hawaiian hoary bats were not conducted as part of the Biological Survey Report. However, Hawaiian hoary bats are known to occur on O'ahu and there is a potential that they are present within the project site. During land clearing activities that include tree removal, the USFWS guidelines will be followed, which recommend that no trees greater than 15-feet tall be trimmed or removed during the bat pupping season from June 1 to September 15.

3.7 Air Quality

The Clean Air Act requires the EPA to govern the establishment, review, and revision of the National Ambient Air Quality Standards (NAAQS) for six principal air pollutants ("criteria pollutants") that are common in outdoor air, considered harmful to public health and the environment, and that come from numerous and diverse sources (see Table 4). The six criteria pollutants include carbon monoxide (CO), lead (Pb), particulate matter (PM), ozone (O_3), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2). Areas where concentrations of criteria pollutants are below the NAAQS are designated by the EPA as being in "attainment", whereas areas where concentrations of criteria pollutants exceed the NAAQS are designated as being in "nonattainment." The City and County of Honolulu has not been classified as nonattainment for any criteria pollutant.

Table 4: National Ambient Air Quality Standards

Pollutant		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)		primary	8 hours	9 ppm	Not to be exceeded more than once per year
			1 hour	35 ppm	
Lead (Pb)		primary and secondary	Rolling 3-month average	0.15 µg/m ^{3} [(1)]	Not to be exceeded
Nitrogen Dioxide (NO_2)		primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		primary and secondary	1 year	53 ppb [(2)]	Annual Mean
Ozone (O_3)		primary and secondary	8 hours	0.070 ppm [(3)]	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution (PM)	$PM_{2.5}$	primary	1 year	12.0 µg/m ^{3}	annual mean, averaged over 3 years
		secondary	1 year	15.0 µg/m ^{3}	annual mean, averaged over 3 years
		primary and secondary	24 hours	35 µg/m^3	98th percentile, averaged over 3 years
	PM_{10}	primary and secondary	24 hours	150 µg/m ^{3}	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO_2)		primary	1 hour	75 ppb [(4)]	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

Source: U.S. EPA, NAAQS Table

At the State level, air quality standards ("HIAQS") are defined in HAR §11-59 *Ambient Air Quality Standards*, which are listed in Table 5.

Table 5: Hawai'i State Air Quality Standards

Pollutant		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)		primary	8 hours	4.4 ppm	Not to be exceeded more than once per year
			1 hour	9 ppm	
Lead (Pb)		primary and secondary	Rolling 3-month average	1.5 µg/m^3	Not to be exceeded; based on calendar quarter
Nitrogen Dioxide (NO_2)		primary	1 hour	---	---
		primary and secondary	1 year	0.04 ppm	Annual Mean
Ozone (O_3)		primary and secondary	8 hours	0.08 ppm	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution (PM)	$PM_{2.5}$	primary and secondary	---	---	---
	PM_{10}	primary and secondary	24 hours	150 µg/m^3	Must not be exceeded more than one day per year, after compensating for days when monitoring did not occur (estimated number of exceedances).
		primary and secondary	1 year	50 µg/m^3	
Sulfur Dioxide (SO_2)		primary and secondary	1 hour	---	---
		primary and secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year
		primary and secondary	24 hours	0.14 ppm	
		primary and secondary	Annual	0.03 ppm	

Source: HAR §11-59 Ambient Air Quality Standard

The State of Hawai'i, Department of Health, Clean Air Branch maintains and operates three air quality monitoring sites on the island of O'ahu: Honolulu, Pearl City, and Kapolei. The monitoring sites measure ground-level concentrations of criteria pollutants. Tables 6 - 8 present the available 2018 to 2020 air quality monitoring data for each of the three sites (USEPA, 2018 - 2020). No exceedances of any NAAQS or HIAQS were observed during the three-year period.

Table 6: Ambient Air Quality Data – Honolulu Site

AQS Site 15-003-1001, Honolulu							
Pollutant	**Averaging Time**	**Form**	**2018**	**2019**	**2020**	**HIAQS**	**NAAQS**
Carbon Monoxide (CO) [ppm]	1-hour	2nd Highest	1.0	1.3	0.9	9.0	35
		3-year Average	1.1				
	8-hour	2nd Highest	0.8	0.8	0.6	4.4	9.0
		3-year Average	0.7				
Fine Particulate ($PM_{2.5}$) [$\mu g/m^3$]	24-hour	98th percentile	7.5	6.7	6.2	N/A	35
		3-year average	6.8				
	Annual	Annual average	3.6	3.2	3.0	N/A	12
		3-year average	3.3				
Coarse Particulate (PM_{10}) [$\mu g/m^3$]	24-hour	2nd highest	26	27	21	150	150
		3-year average	24.7				
Sulfur Dioxide (SO_2) [ppb]	1-hour	99th percentile	3.3	5.9	0.6	N/A	75
		3-year average	3.3				

Source: U.S. EPA

Table 7: Air Quality Monitoring Data – Pearl City Site

AQS Site 15-003-2004, Pearl City							
Pollutant	**Averaging Time**	**Form**	**2018**	**2019**	**2020**	**HIAQS**	**NAAQS**
Fine Particulate ($PM_{2.5}$) [µg/m^3]	24-hour	98th percentile	9.1	6.3	6.2	N/A	35
		3-year average	7.2				
	Annual	Annual average	3.0	3.3	3.2	N/A	12
		3-year average	3.2				
Coarse Particulate (PM_{10}) [µg/m^3]	24-hour	2nd highest	31	29	24	150	150
		3-year average	28				
Sulfur Dioxide (SO_2) [ppb]	1-hour	99th percentile	16.1	16.3	17.7	N/A	75
		3-year average	16.7				

Source: U.S. EPA

Table 8: Air Quality Monitoring Data – Kapolei Site

AQS Site 15-003-0010, Kapolei							
Pollutant	**Averaging Time**	**Form**	**2018**	**2019**	**2020**	**HIAQS**	**NAAQS**
Carbon Monoxide (CO) [ppm]	1-hour	2nd Highest	0.6	0.5	0.6	9.0	35
		3-year Average	0.6				
	8-hour	2nd Highest	0.4	0.3	0.4	4.4	9.0
		3-year Average	0.4				
Fine Particulate ($PM_{2.5}$) [µg/m^3]	24-hour	98th percentile	9.7	6.2	7.0	N/A	35
		3-year average	7.6				
	Annual	Annual average	4.3	3.6	3.7	N/A	12
		3-year average	3.9				
Coarse Particulate (PM_{10}) [µg/m^3]	24-hour	2nd highest	25	32	38	150	150
		3-year average	31.7				

AQS Site 15-003-0010, Kapolei							
Pollutant	**Averaging Time**	**Form**	**2018**	**2019**	**2020**	**HIAQS**	**NAAQS**
Sulfur Dioxide (SO_2) [ppb]	1-hour	99th percentile	9.6	10.9	8.9	N/A	75
		3-year average	9.8				
Nitrogen Dioxide (NO_2) [ppb]	1-hour	98th percentile	26.9	28.1	25.5	N/A	100
		3-year average	26.8				
	Annual	Annual average	3.9	4.1	3.4	40	53
		3-year average	3.8				
Ozone (O_3) [ppb]	8-hour	4th highest	49.0	52.0	45.0	80	70
		3-year average	48.7				

Source: U.S. EPA

Potential Impacts and Mitigation Measures

As part of the Draft EIS, an *Air Quality Technical Report* was prepared by Stantec to identify and quantify the potential direct, indirect, and cumulative air quality impacts related to the proposed development and operation of the FRTC (see Appendix E). Based on the report, it is anticipated that the FRTC has the potential to affect the air quality through the following means:

- Emissions from stationary sources of pollutants such as generators, boilers, or space heaters throughout the campus;
- Emissions from commuter traffic to the site, which raises vehicle emission levels near the site, and possibly within the region;
- Emissions from training vehicles stored and operated on-site (emergency vehicles, etc.);
- Generation of airborne dust during construction Phases A through F; and
- Generation of tailpipe emissions from construction worker commuter vehicles and construction equipment during each development Phase

Construction-related emissions include tailpipe emissions from construction equipment, delivery trucks, and workers commuting to and from the construction site. Other construction-related emissions could include fugitive dust emissions from earth disturbances during construction and from vehicle movement on-site. In the *Air Quality Technical Report*, Stantec inventoried construction-related emissions for each phase of the project. Based on this inventory, the worst-case phase of construction that was inventoried was Phase B, which includes completion of the 2,000-space parking garage and construction of several buildings, in

addition to on-going utility installation beneath the roadways. Table 9 presents the anticipated emissions during Phase B construction on a ton per year basis. Phase B construction emissions assume 180 total workdays for each construction activity over a period of 2.5 years, and each piece of offroad equipment operating simultaneously for the activities. For example, construction of the parking structure assumes a bulldozer, grader, backhoe, roller, and paver operating for 180 days each; this methodology is used throughout all construction emission calculations. It is assumed that usage of each piece of equipment will be more sporadic and not as simultaneous during actual construction.

Table 9: FRTC Worst-Case Construction Emissions – Phase B (2023 – 2025)

Pollutant	Construction Equipment Exhaust	Commuter Exhaust	Material Delivery Exhaust	Paved Road Dust	General Construction Fugitive Dust	Total (tons)	Total (tons per year)
Carbon Monoxide (CO)	13.61	2.31	15.13	N/A	N/A	31.04	12.42
Oxides of Nitrogen (NOx)	54.13	0.12	8.49	N/A	N/A	62.74	25.10
Coarse Particulate (PM_{10})	2.09	0.04	0.99	3.06	0.14	6.31	2.53
Fine Particulate ($PM_{2.5}$)	2.15	0.01	0.30	12.46	1.38	16.30	6.52
Volatile Organic Compounds (VOC)	0.06	0.00	0.02	N/A	N/A	0.08	0.03
Sulfur Dioxide (SO_2)	1.86	0	1	N/A	N/A	2.60	1.04
CO_2-eq	21,673	254	5,884	N/A	N/A	27,811	11,124

Source: Stantec

Fugitive dust control can be accomplished by the establishment of a frequent watering program to keep bare dirt surfaces in construction areas from becoming significant sources of dust. In dust prone or dust sensitive areas, other control measures such as limiting the area that can be disturbed at any given time, applying chemical soil stabilizers, mulching and/or using wind screens may be necessary. Onsite mobile and stationary construction equipment also would emit air pollutants from engine exhausts, but no sensitive receptors are present. The contractor will be required to prepare a dust control plan during construction compliant with provisions of HAR, Chapter 11-60.1 Air Pollution Control and Section 11-60.1-33 Fugitive Dust.

The following activities are anticipated to occur at the FRTC and were assessed for their potential pollutant emissions: Commuter emissions from recruits and instructors; Space heating; Firearms training; Emergency response training using signal flares; and Firefighter training.

The criteria pollutant emissions anticipated for each of the listed activities are presented in Table 10. The operational estimates were calculated using conservative assumptions, such as assuming 10,000 rounds would be fired each day for five days a week throughout the year, and that those reporting to the FRTC would be commuting a total of 15.6 million miles per year (calculated based on parking structure capacity of 2,000 spaces, five-days-a-week work weeks, for 52 weeks a year, and each vehicle traveling 30 miles). Based on these extreme assumptions, the maximum criteria pollutant annual emissions for operations would not exceed 60.5 tons of CO per year but would require a minor source permit by the DOH Clean Air Branch.

Table 10: Anticipated Operational Emissions

Pollutant	Commuting Exhaust	Space Heating	Firearms Training	Signal Flares	Firefighting Training	Rubble Pile	Total
Carbon Monoxide (CO)	48.96	4.95	1.95	4.06	0.02	N/A	60
Oxides of Nitrogen (NOx)	2.63	5.89	0.05	1.49	0.01	N/A	10.1
Coarse Particulate (PM_{10})	0.15	0.45	0.10	43.40	0.01	0.20	44.35
Fine Particulate ($PM_{2.5}$)	0.77	0.45	0.09	2.08	0.01	0.10	3.55
Volatile Organic Compounds (VOC)	0.04	0.04	N/A	0.04	0.001	N/A	0.1
Sulfur Dioxide (SO_2)	0.81	0.32	N/A	0.15	N/A	N/A	1.25
CO_2-eq	5,392	7,067	1.7	57.3	N/A	N/A	12,519

Source: Stantec

Due to the limited amount of VOC emissions (0.1 tons/yr) and NOx (10.1 tons/yr), the generation of ground-level ozone is expected to be minimal. With the low generation of ground-level ozone, the generally large spatial area of the property, and the initially low background concentrations, it is expected that the proposed project would comply with all HIAQS and NAAQS requirements.

3.8 Noise

As part of the Draft EIS, D.L. Adams Associates, Ltd. (DLAA) prepared a *Draft Environmental Noise Assessment* to estimate the potential noise related impacts resulting from the full buildout and operation of the FRTC (see Appendix F).

Local and federal agencies have established guidelines and standards for assessing environmental noise impacts, as well as setting noise limits as a function of land use. The following is a brief description of the guidelines and common acoustic terminology.

State of Hawai'i, Community Noise Control, HAR §11-46
HAR §11-46 *Community Noise Control* defines three classes of zoning districts that specifies the maximum permissible sound levels due to stationary noise sources (e.g. Air-conditioning units, exhaust systems, generators, compressors, pumps, etc.) in each zone. The rule does not address most moving sources, such as vehicular traffic, air traffic noise, or rail traffic noise, however it does regulate noise related to construction activities.

The maximum permissible noise levels are enforced by the DOH for any location at or beyond the property line and shall not be exceeded for more than 10% of the time during any 20-minute period. The specified noise limits are a function of the time of day and land use zoning designation; the rule specifies that the primary land use designation shall be used to determine the applicable zoning district class and the maximum permissible sound level. Background noise level is taken into account by the DOH when determining the maximum permissible sound level.

U.S. Federal Highway Administration (FHWA)
The FHWA defines seven activity categories with corresponding maximum hourly equivalent sound levels, $L_{eq(h)}$, for traffic noise exposure, as shown in Figure 12.

Figure 12: FHWA Noise Abatement Criteria for Highway Noise

ACTIVITY CATEGORY	ACTIVITY CATEGORY DESCRIPTION	HOURLY EQUIVALENT SOUND LEVEL L_{eq}
A	LANDS ON WHICH SERENITY AND QUIET ARE OF EXTRAORDINARY SIGNIFICANCE AND SERVE AN IMPORTANT PUBLIC NEED AND WHERE THE PRESERVATION OF THOSE QUALITIES IS ESSENTIAL IF THE AREA IS TO CONTINUE TO SERVE ITS INTENDED PURPOSE.	57 dBA (EXTERIOR)
B	RESIDENTIAL	67 dBA (EXTERIOR)
C	ACTIVE SPORT AREAS, AMPHITHEATERS, AUDITORIUMS, CAMPGROUNDS, CEMETERIES, DAY CARE CENTERS, HOSPITALS, LIBRARIES, MEDICAL FACILITIES, PARKS, PICNIC AREAS, PLACES OF WORSHIP, PLAYGROUNDS, PUBLIC MEETING ROOMS, PUBLIC OR NONPROFIT INSTITUTIONAL STRUCTURES, RADIO STUDIOS, RECORDING STUDIOS, RECREATION AREAS, SECTION 4(F) SITES, SCHOOLS, TELEVISION STUDIOS, TRAILS, AND TRAIL CROSSINGS	67 dBA (EXTERIOR)
D	AUDITORIUMS, DAY CARE CENTERS, HOSPITALS, LIBRARIES, MEDICAL FACILITIES, PLACES OF WORSHIP, PUBLIC MEETING ROOMS, PUBLIC OR NONPROFIT INSTITUTIONAL STRUCTURES, RADIO STUDIOS, RECORDING STUDIOS, SCHOOLS, AND TELEVISION STUDIOS .	52 dBA (INTERIOR)
E	HOTELS, MOTELS, OFFICES, RESTAURANTS/BARS, AND OTHER DEVELOPED LANDS, PROPERTIES OR ACTIVITIES NOT INCLUDED IN A-D OR F.	72 dBA (EXTERIOR)
F	AGRICULTURE, AIRPORTS, BUS YARDS, EMERGENCY SERVICES, INDUSTRIAL, LOGGING, MAINTENANCE FACILITIES, MANUFACTURING, MINING, RAIL YARDS, RETAIL FACILITIES, SHIPYARDS, UTILITIES (WATER RESOURCES, WATER TREATMENT, ELECTRICAL), AND WAREHOUSING	N/A
G	UNDEVELOPED LANDS THAT ARE NOT PREMITTED	N/A

State of Hawai'i, Department of Transportation (HDOT)

The HDOT has adopted FHWA's design goals for traffic noise exposure in its noise analysis and abatement policy, titled *Highways Noise Policy and Abatement Guidelines* (DOT-H). According to the policy, a traffic noise impact occurs when the predicted traffic noise levels "approach" or exceed FHWA's design goals or when the predicted traffic noise levels "substantially exceed the existing noise levels." In the policy, "approach" means at least 1 dB less than FHWA's design goals and "substantially exceed the existing noise levels" means an increase of at least 15 dB. Although the project is not an FHWA Type 1 project and therefore not under HDOT jurisdiction, these thresholds are used as guidelines for evaluating the potential for and mitigation of project-generated noise impacts.

Community Response to Change in Noise Levels

Human sensitivity to changes in sound pressure level is highly individualized and can depend on frequency content, time of occurrence, duration, and psychological factors such as emotions and expectations. However, the average ability of an individual to perceive changes in noise levels is well documented by the EPA in their report titled *Toward a National Strategy for Noise Control,* which has been summarized in Table 11. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

Table 11: Average Ability to Perceive Changes in Noise Level

Sound Level Change (dB)	Human Perception of Sound
0	Imperceptible
3	Just barely perceptible
6	Clearly noticeable
10	Two times (or ½) as loud
20	Four times (or ¼) as loud

Source: Architectural Acoustics, M. David Egan

A commonly applied criterion for estimating a community's response to changes in noise level is the 'community response scale' proposed by the International Standards Organization (ISO) of the United Nations, as shown in Table 12. The scale relates changes in noise level to the degree of community response and allows for direct estimation of the probable response of a community to a predicted change in noise level. The values presented are based on statistical analysis of data collected from previous projects in which ambient noise levels increased in the surrounding community, thus it is only a rule of thumb for estimating community response and not a prediction for the proposed action's expected community response.

Table 12: Community Response to Increase in Noise Levels

Sound Level Change (dB)	Category	Response Description
0	None	No observed reaction
5	Little	Sporadic complaints
10	Medium	Widespread complaints
15	Strong	Threats of community action
20	Very Strong	Vigorous community action

Source: International Standards Organization of the United Nations

3.8.1 Existing Noise Classifications

The project's surrounding environment is zoned for a variety of land uses. The primary zoning along Kahelu Avenue in MTP is IMX-1, which includes uses such as industrial, warehouse, commercial office, house of worship, and the MTP Preschool. Lands north of the project site are zoned F-1 Federal and Military as they include the Leilehua Golf Course, storage, maintenance, and training facilities for the U.S. Army Garrison, and areas zoned for preservation. South of the project site are lands zoned as R-5 and P-2, which includes multi-family and single-family residential developments, and park space in Launani Valley and Mililani Mauka.

According to HAR §11-46 Community Noise Control, the single-family residential developments, MTP Preschool, and the preservation lands to the north are considered to fall within the Class A zoning district, which is defined as areas equivalent to lands zoned residential, conservation, preservation, public space, open space, or similar. Class A zoning districts have a maximum

property line noise level of 55 dBA during the daytime (7AM to 10PM) and 45 dBA at night (10PM to 7AM).

The multifamily homes in Launani Valley, office spaces in MTP Phase 1 and the U.S. Army Garrison NCO Academy would be considered Class B, as they are areas that include multi-family dwellings, apartment, business, commercial, hotel, resort, or similar type. Class B zoning districts have a maximum property line noise level of 60 dBA during the daytime and 50 dBA at night.

The industrial and warehouse uses in MTP Phase 1 would be considered Class C, which allows a maximum property line noise level of 70 dBA during both day and night. Based on the uses proposed at the FRTC, the portion of the project located on Parcel 057 including the office buildings, residential, and hotel areas would be considered Class B, while Parcel 039 for the HIARNG site and search and rescue training would be considered Class C. Figure 13 shows the relationship between the County's land use zoning and the class zoning districts described in HAR §11-46-3.

Based on the FHWA noise impact assessment guidelines, existing residential uses would be considered Noise Activity Category (NAC) B with noise abatement criteria of 67 dBA L_{eq}. The MTP Preschool, houses of worship, and active recreation areas in the Launani Valley would be considered NAC C with a noise abatement threshold of 67 dBA L_{eq}. The MTP Phase 1 office buildings and the NCO Academy would be considered NAC E with a noise abatement threshold of 72 dBA and industrial, maintenance and storage facilities would be considered NAC F with no noise abatement threshold. The proposed uses at the FRTC would be categorized as NAC B, NAC C, NAC E, and NAC F, which are described in Figure 12.

3.8.2 Existing Acoustical Environment

The calculated noise levels from proposed FRTC operations were compared to the measured existing noise environment, as well as calculated future noise levels in the build year of each project phase. The following is a summary of the methodology used by DLAA to conduct the noise impact analysis:

1) Determine ambient noise levels at noise sensitive areas within the project study area. A variety of noise receptors were identified to represent a range of zoning categories and uses expected to experience the most exposure to noise level changes from the FRTC.
2) Calculate the future projected traffic noise levels without the FRTC.
3) Calculate the future projected traffic noise levels with the FRTC. The projected increase in traffic volume that is anticipated to be generated by the FRTC was taken from the Draft FRTC Traffic Impact Analysis Report (TIAR) and used for future noise level predictions.
4) Calculate noise level impacts due to construction. As the future phases of the project have yet to be designed in detail, generalized construction noise levels were used to broadly predict noise impacts to the surrounding area during the construction of the FRTC. Impacts

on the completed FRTC phases due to the construction of the subsequent phases were also assessed.

5) Calculate noise level impacts due to FRTC operations. The FRTC will include several outdoor training activities that will generate noise that would not be considered "stationary noise sources" according to the DOH. These sources will include a variety of training and simulation courses.
6) Compare the predicted traffic noise levels to HDOT/FHWA criteria.
7) Compare predicted construction noise levels to DOH Community Noise Control limits.
8) Evaluate mitigation measures to reduce noise impacts due to increased traffic. A noise barrier analysis was conducted to determine reasonability and feasibility of barrier mitigation options according to DOT evaluation criteria.
9) Evaluate construction noise mitigation methods. Typical construction noise mitigation measures, such as localized barriers and site construction fences, were considered.
10) Evaluate mitigation methods for FRTC operations. Mitigation measures such as alternate site geometries and barriers were evaluated for areas where outdoor training activities were determined to have the potential to impact neighboring noise sensitive uses.

Long-Term Noise Measurements

DLAA conducted two types of noise measurements to assess the existing acoustical environment within the project study area. The first type of noise measurement consisted of continuous long-term ambient noise level measurements at six locations, while the second type of measurement was short-term and was taken at two locations; see Figure 14 for a map of the locations. All noise level measurements occurred during the COVID-19 pandemic when traffic levels were approximately 7% lower than pre-pandemic traffic conditions (according to SSFM TIAR). This difference in traffic volume would not be expected to result in a noticeable change to traffic noise levels compared to pre-pandemic levels.

DLAA conducted ambient noise level measurements at locations L1, L2, L4, and L6 between September 9 -12, 2021; measurements were taken at location L3 between October 21-23, 2021; and measurements were taken at location L5 between December 9-12, 2021. The long-term noise measurements were scheduled to capture typical weekday and weekend noise levels. Below is a description of the methodology for determining the long-term noise measurement locations.

Mililani Tech Park Preschool (L1): The meter was located on the south-eastern corner of the intersection of Kahelu Avenue and Palii Road. This location was chosen as it represents all existing noise-sensitive uses within MTP Phase 1.

Kahelu Avenue Termination/FRTC Future Entrance (L2): The meter was located at the terminus of Kahelu Avenue near the gate to the existing dirt access road. This location represents future hotel/dormitory ancillary uses exposed to Kahelu Avenue traffic.

Higgins Road (L3): The meter was located on the southern side of Higgins Road at the entrance to the HECO utility road right-of-way. This location was chosen as it represents noise levels within the U.S. Army Garrison property, in particular the NCO Academy across from Higgins Road.

FRTC Phase B Overlooking Launani Valley (L4): The meter was in a utility pole clearing along the approximate southern border of the future private development area towards the southern portion of the site. This location represents noise levels at the future Phase B (the earliest timeframe of development for the workforce housing), The Terraces at Launani Valley, and residences in Mililani Mauka opposite of Launani Valley with line-of-sight to the Parcel 057 development area.

Wikao Street in Launani Valley (L5): The meter was located near a guest parking area in the Launani Valley condominium complex at the end of Wikao Street. This location represents noise levels at condominium and park uses within Launani Valley.

Ahokele Street Overlooking Parcel 039 (L6): The meter was located at the end of Ahokele Street overlooking the Parcel 039 lot proposed for the search and rescue training area. This location represents noise levels at residences in the eastern portions of Mililani Mauka with possible exposure of noise from the FRTC.

A summary of the long-term noise measurements is provided in Table 13. Based on the measurements, the ambient sound levels at all locations were relatively quiet and typical of suburban and rural environments. The locations with the highest noise levels are L1 and L3, which are close to roadways with regular heavy truck traffic, while location L4 presented the lowest ambient noise levels.

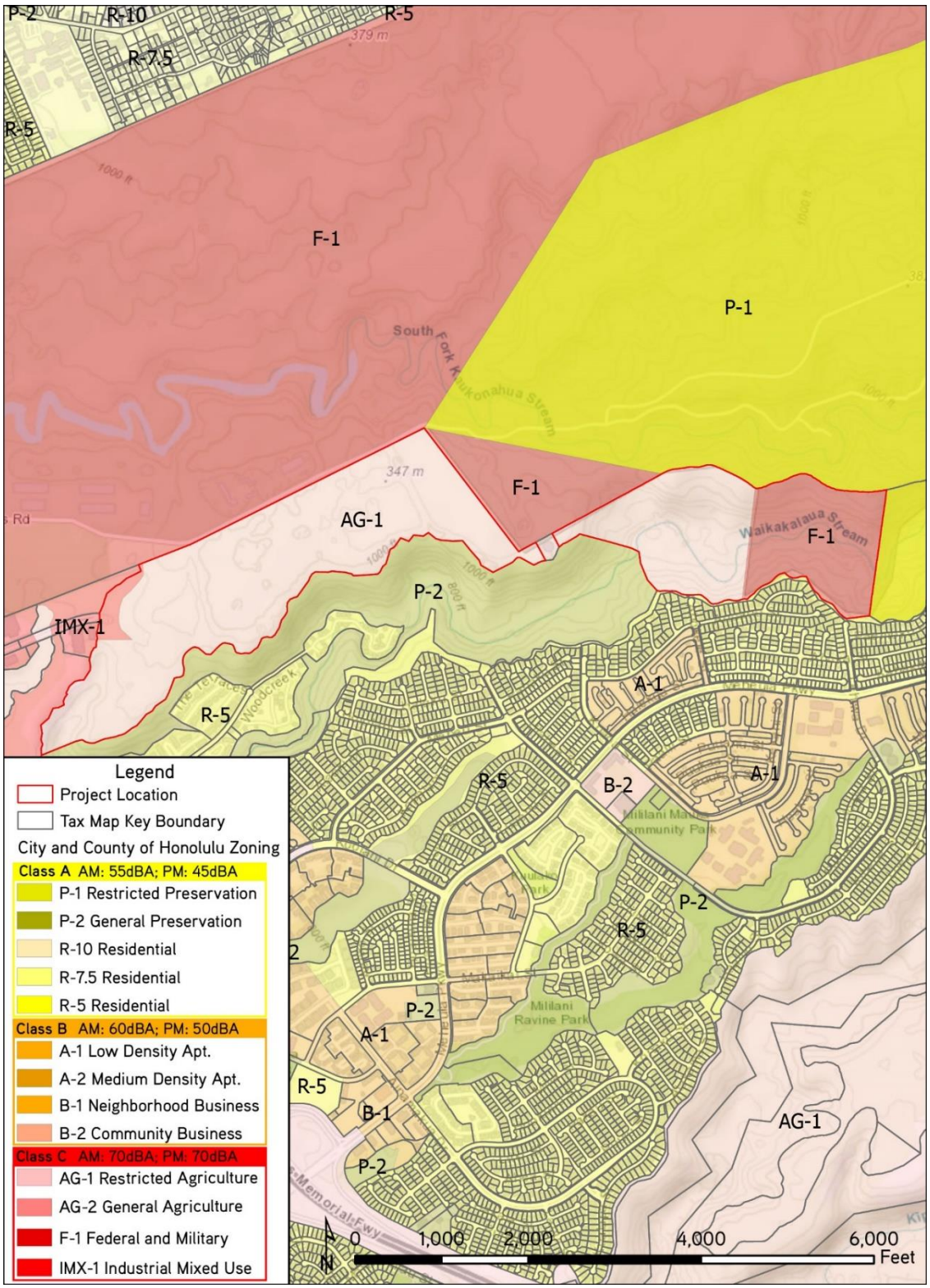
Short-Term Noise Measurements

DLAA conducted 1-hour equivalent sound level (L_{eq}) measurements at spots S1 and S2 (see Figure 14). Measurements were taken during the peak AM and PM traffic hour and were used to validate traffic noise level predictions from the CadnaA software. Below is a description of the spots where the measurements were taken, along with a summary of the results listed in Table 14. The dominant noise sources at both spots were from vehicular traffic on Wikao Street for spot S1, and Meheula Parkway for spot S2.

Launani Valley Community Park (S1): The meter was located on the south side of Wikao Street, approximately 300 feet east of the intersection with Waikalani Drive.

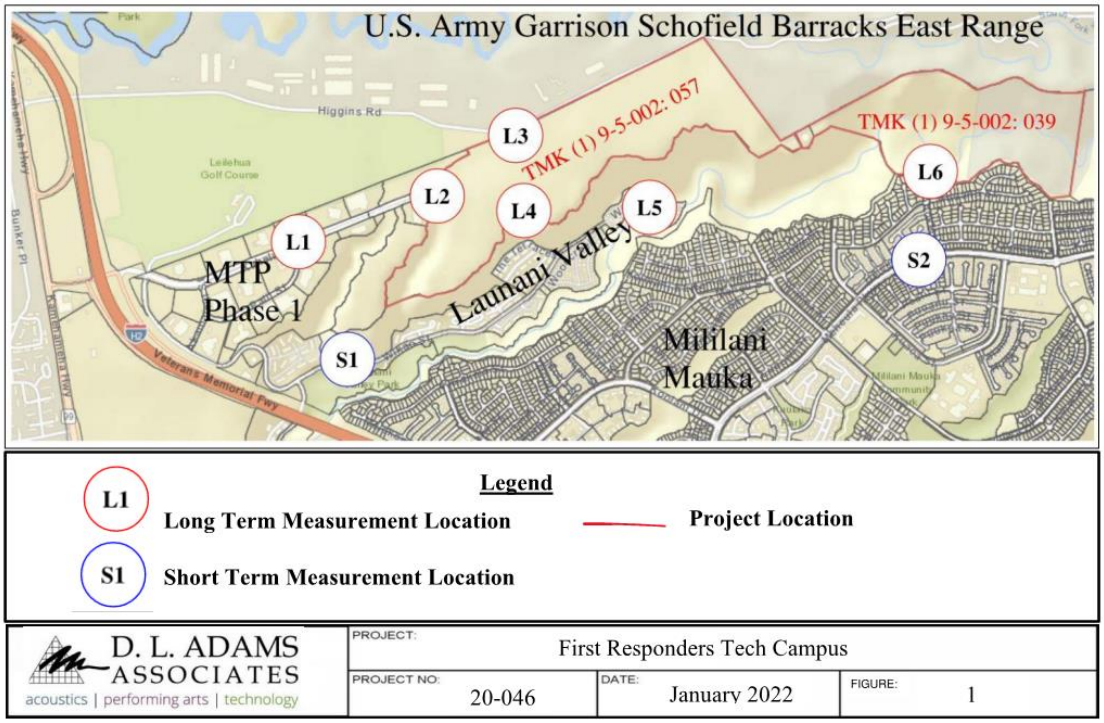
Meheula Parkway and Ahokele Street (S2): The meter was located on the northwest corner of the intersection of Meheula Parkway and Ahokele Street.

Figure 13: HAR §11-46-3 Classification of Zoning Districts



Source: City and County of Honolulu, DPP

Figure 14: Project Site and Noise Measurement Locations



Source: D.L. Adams Associates

Table 13: Summary of Long-Term Noise Measurement Results (dBA)

Measurement Location	Average Daytime	Average Nighttime	Average
L1	57	51	59
L2	56	46	56
L3	59	52	60
L4	49	49	56
L5	49	47	54
L6	46	42	49

Source: D.L. Adams Associates

Table 14: Summary of Short-Term Noise Measurement Results (dBA)

Measurement Location	AM L_{eq} (7:00AM)	PM L_{eq} (4:00PM)
S1	53	65
S2	66	67

Source: D.L. Adams Associates

Potential Impacts and Mitigation Measures

Construction Noise Impacts

Table 15 shows the maximum distance at which an impact would be expected to residential, commercial, and industrial areas resulting from the generalized construction noise levels. The distances shown in Table 15 are based on a theoretical 6 dBA reduction per doubling of distance.

Table 15: FTA Analysis Results – Maximum Distance to Noise Impact

Receptor Land Use Category		FTA Criteria (L_{eq} dBA) Day|Night	Maximum Distance from Construction Activity to Receptor for FTA Noise Impact Criteria Exceedance (ft)				
			Ground Clearing	Excavation	Foundations	Erection	Finishing
Residential		80|70	79|251	141|446	40|126	112|354	141|446
Commercial		85	45	79	22	63	79
Industrial		90	25	45	13	35	45

Source: D.L. Adams Associates

Table 16 lists the areas that may potentially be impacted by construction noise; this is to be confirmed with detailed construction impact modeling. High noise levels generated by the project's construction activities may potentially impact The Terraces at Launani Valley during construction of Phases A and B, which could span five years. The Army Garrison NCO Academy located across of Higgins Road may experience high noise levels throughout construction of Phases A, B, C, and D, which could span more than ten years.

Table 16: Receptors Within Range of General Construction Noise Levels

Receptor	Phase A	Phase B	Phase C	Phase D	Phase E	Phase F
The Terraces at Launani Valley	X	X		-	-	-
U.S. Army Garrison NCO Academy	X	X	X	X	-	-
Phase B (Offices)		-	X	-	-	-
Phase B (Hotel/Dormitory)	-	-	-	-	X	-

Receptor	Phase A	Phase B	Phase C	Phase D	Phase E	Phase F
Phase B (Workforce Housing)	-	-	-	-	-	-
Phase C	-	-	-	X	-	-
Phase D	-	-	-	-	-	X
Phase E	-	-	-	-	-	-

Legend: "X" = within range of potential impact; "-" = outside of range of impact

Source: D.L. Adams Associates

Given the duration of elevated noise levels at the areas listed in Table 16, an impact is possible during construction and detailed analysis is needed to determine the potential benefit from equipment and project specific mitigation methods. Noise analyses of proposed equipment and schedule should be conducted as the phases of design are further developed to mitigate noise levels at these receptors.

Based on the generalized noise levels at the nearest residences, the DOH Community Noise Control criteria will likely be exceeded at times during construction of the FRTC, and the project will require a Noise Permit. Should nighttime construction work occur, a Noise Variance will be required, although night work is not recommended given the relatively quiet ambient noise levels and proximity of the site to noise sensitive neighboring uses.

Vehicular Traffic Noise Impacts

Table 17 shows the anticipated total noise levels in the future project buildout scenario for each completed phase of the project in comparison to the future no-project buildout scenario. The table does not show noise levels for 2021 (existing conditions) and 2025 (completion of Phase A) because the first potential noise sensitive receptors (FRTC offices) would not be constructed and occupied until 2027 following completion of Phase B. Noise level *increases* are not included for 2027 because the occupants introduced as a result of Phase B would not experience the 2027 ambient noise levels and would have no baseline against which to perceive increases in noise. In addition, no increase in traffic volume is expected until the completion of Phase B as Phase A consists of only the construction of roadways and utilities.

Table 17: Total Noise Levels at FRTC – Future With Project Scenario

FRTC Receptor	Maximum Predicted Traffic Noise Level from Completed Phase (dBA, Peak Hour L_{eq})											
	2027 (No Action)		2027 (Phase B)		2030 (Phase C)		2033 (Phase D)		2036 (Phase E)		2038 (Phase F)	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Phase B (Office)	62	61	65	65	66	65	66	66	67	66	67	66
Phase B (Hotel/Dormitory)	51	55	57	56	58	57	58	57	58	57	58	57
Phase B (Workforce Housing)	48	53	54	54	54	54	55	54	55	54	55	55
Phase C	62	61	-	-	66	65	66	66	67	66	67	66
Phase D	62	61	-	-	-	-	59	58	59	59	60	59
Phase E	62	61	-	-	-	-	-	-	59	57	59	57

Source: D.L. Adams Associates

In summary, exterior noise levels are not expected to exceed the FHWA and HDOT NAC thresholds for each land use type proposed at the FRTC. Total increases in noise levels as subsequent phases are completed would be considered imperceptible, thus it is anticipated that there would not be an adverse impact due to traffic increases on the occupied FRTC facilities. No mitigation is required to reduce traffic noise levels to FRTC facilities beyond standard construction materials.

Stationary Building Equipment

All stationary noise sources will be required to comply with HAR §11-46 Community Noise Control, including equipment located on the exterior of buildings. Therefore, it is anticipated that there will not be a significant impact to ambient noise levels due to building system stationary sources.

Transient Operational Noise Sources

The transient noise-producing outdoor operations anticipated at the FRTC has been divided into two categories for assessment: vehicular training and response, and scenario training for specific agencies.

Vehicular Training and Response

Vehicular noise sources associated with transient operations include an emergency vehicle training track. Based on DLAA's discussions with HFD personnel, it was determined that typical emergency vehicle driving training does not include the use of sirens or horns but focuses on

practicing maneuvering apparatuses. High speed practice is not anticipated at the FRTC, therefore vehicular training exercises were not considered a worst-case training exercise to warrant further study.

Scenario Training and Response

Emergency response training scenarios will be conducted in the outdoor training areas of the FRTC. Trainings are expected to include multiple variations of fire and police emergency scenarios, including live burn simulations, vehicle extraction, building rescue, and mock-hostage scenarios.

The types of noise sources associated with training exercises will vary by agency, class size, class participants, and the equipment used. In general, the loudest noise sources would be expected to be from vehicle simulation, tool training, and communications between instructors and students.

To document training scenario noise, DLAA surveyed noise levels from HFD training operations. The training operations surveyed included a live propane tank burn, tower rescue simulations, and vehicle extraction exercises, which included consistent use of loud apparatus such as pumps and engines, vehicle demolition tools, and loud communications from instructors to trainees. It is assumed that training scenarios from other agencies would produce noise levels similar to, or quieter than, fire department training scenarios, therefore noise surveyed from HFD training operations are used as a basis for analysis for all operations.

Noise level emissions during a live propane burn simulation were measured on March 10, 2022, and from vehicle extraction and tower rescue simulations on March 14, 2022, at Fire Station 08 Mokulele in Honolulu. Measurements were taken approximately 50 to 100 ft. away from noise sources. Maximum noise levels from each type of training were entered into the CadnaA model to predict potential noise level increases at surrounding uses compared to future ambient conditions without the training operations. The total predicted noise levels and increments due to fire training exercises are included in the report in Appendix F. These noise levels assume all potential fire training exercises occur simultaneously; split training scenarios would be expected to result in quieter noise levels.

Noise levels due to the fire training operations are expected to be up to 54 dBA at all existing neighboring uses, with noise level increases above the future ambient noise level conditions of up to 5 dBA. An increase of this magnitude would be considered readily perceptible; however the total noise levels would not be expected to exceed the 55 dBA DOH property line noise level limits. While training operations may increase the ambient noise levels and be noticeable at times, a significant impact due to training operations is not expected and no further mitigation is required.

Compliance with FHWA/HDOT Noise Guidelines at Existing Noise Receptors

DLAA calculated traffic noise levels using a CadnaA Model to determine project generated traffic related impacts at 37 existing noise receiver locations that represent receptors that could potentially be affected by traffic increases due to the FRTC. The existing road conditions were modeled for peak hour AM (7:00AM) and PM (4:00PM) traffic. Noise projections were calculated for the 37 locations during the peak hour AM and PM traffic for both the "Future without the FRTC" and "Future with the FRTC" scenarios in 2027, 2030, 2033, 2036, and 2038. Peak hour AM and PM traffic volumes data was taken from the Draft TIAR. Noise levels were assessed at receptors with line-of-sight to the FRTC site and the primarily affected roadways (e.g. Kahelu Avenue).

A comparison of projected future peak hour traffic noise levels with and without the FRTC is was made in the noise assessment. Phase A noise level projections are not included as this phase will only include the construction of roadways and utilities, thus no increase in traffic volume is expected. Based on the projections, the highest noise level increase will occur in 2027 upon completion and occupancy of Phase B. Traffic noise levels are anticipated to increase along Kahelu Avenue by approximately 8 dBA, which would result in noticeable noise increases at receptors such as the MTP Preschool. The total noise levels at the MTP Preschool are predicted to increase to above the FHWA and HDOT NAC threshold for this Activity Category, which would be considered a traffic-induced impact to the MTP Preschool. According to the guidelines, a noise barrier should be evaluated for reasonableness and feasibility. At areas within Launani Valley with line-of-sight to the FRTC, noise levels are anticipated to increase by up to approximately 5 dBA, depending on the proximity to the FRTC's roadways. At residences within Launani Valley and in Mililani Mauka closer to H-2, noise level increase would remain below 3 dBA and would be considered imperceptible. Although total noise level increases may be noticeable as a result of project-induced traffic, the total noise levels would remain below the FHWA and HDOT NAC thresholds and therefore would not be anticipated to result in a noise impact.

To mitigate the potential construction noise impacts which may exceed the "maximum permissible" property line noise levels, the contractor should submit a noise permit application to DOH which should detail BMPs to mitigate noise. BMPs should include, but not be limited to, using mufflers on diesel and gasoline engines, using properly tuned and balanced machines, etc. The DOH may require additional noise mitigation, such as temporary noise barriers, or time of day usage limits for certain construction activities.

The MTP Preschool is anticipated to be impacted by the increase in total traffic noise levels along Kahelu Avenue due to the proposed project, which will exceed FHWA and HDOT NAC thresholds. Mitigation measures should weigh the benefits, costs, and overall social, economic, and environmental effects. Per FHWA and HDOT standards, mitigation measures need to be economically reasonable and feasible (i.e. acceptable to the affected receptors). The possible mitigation measures listed in order of effectiveness include:

1. Air-conditioning or forced ventilation for those impacted receptors along Kahelu Avenue. Where applicable, jalousie windows should be replaced with standard storm windows with acoustical gaskets. Typical exterior-to-interior noise reduction for naturally ventilated spaces, i.e., with open windows, is only 9 dB. Noise reduction for air-conditioned spaces with the windows closed is significantly higher. This method would not be effective for the outdoor activity areas of the MTP Preschool that would be directly exposed to noise from Kahelu Avenue.
2. Construction of noise barriers (that incorporate landscaping for aesthetic purposes) whether within or outside the roadway right-of-way. Factors such as distances to roadways and setbacks, intervening ground conditions, barrier construction, barrier height, roadway elevations, receiver height, etc., will determine the noise reduction afforded by a traffic noise barrier. Typically, a sound level reduction of at least 5 dB can be expected where a noise barrier just breaks the line-of-sight from the receiver to the roadway. However, some of these receptors have driveways off of Kahelu Avenue which would necessitate a break or gap in the noise barrier wall. The reduction in traffic noise levels will be less significant for the areas where gaps in the noise barrier wall would be common. Initial studies indicate a minimum 7-feet tall barrier wall would be needed to mitigate traffic noise levels at MTP Preschool to below the NAC threshold and would need to extend the entire property line along Kahelu Avenue and wrap around approximately 20-feet along Palii Street. At other office space receptors along Kahelu Avenue with multiple stories it is not likely that the 5 dB reduction would be achieved without using excessively high walls.
3. Acquisition of real property or interests therein (predominantly unimproved property) to serve as a buffer zone to preempt development which would be adversely impacted by traffic noise.
4. Traffic management measures (e.g., traffic control devices and signing for prohibition of certain vehicle types, time-use restrictions for certain vehicle types, modified speed limits, and exclusive land designations).
5. Introducing alternate access routes to FRTC via Higgins Road, which has primarily industrial and storage facilities less sensitive to noise. This alternative would require further traffic analysis to determine whether enough traffic would divert to Higgins Road to reduce noise levels along Kahelu Avenue. As described earlier, this alternative is not currently part of the project design.

Mitigation measure #2 to provide a minimum 7-feet tall noise barrier along Kahelu Avenue at the MTP Preschool is anticipated to provide the required noise reduction to achieve noise levels below the NAC, as the barrier would provide an approximate reduction of 4 dBA. It should be noted that the FHWA and HDOT criteria and regulations are not a requirement for this project, however they are provided to assist the applicant and project design team in determining the most feasible and reasonable mitigation methods. No traffic noise impacts are expected along any other roadways due to the development of the FRTC.

3.9 Utilities and Infrastructure

The project site is currently undeveloped and does not have any existing utilities or infrastructure servicing the project site. HECO has several easements running through Parcel 057 for electrical transmission lines. Two 25 ft. wide easements run from north to south for HECO's high-voltage electrical transmission lines; one is within the western portion and contains a 46 kilovolt (KV) transmission line and 12 KV distribution line on the same set of poles, while the other is in the eastern portion of Parcel 057 and contains a 46 KV transmission line. A 15 ft. wide easement runs completely across Parcel 057 from east to west and contains an electrical line that runs from Kahelu Avenue up until it intersects with the electrical line within the north-south 25 ft. wide easement on the western portion of the site. A 10 ft. wide easement for utility purposes runs along the southern property line of the parcel, starting from the 25 ft. wide north-south easement on the western portion of the site and ending at the south-east property line. HECO also has an existing underground 12.47 KV line at the end of Kahelu Avenue. BWS also has several easements that run through Parcel 057 to access the water reservoir located between Parcel 057 and 039, which provides service to Mililani Tech Park Phase 1.

Potential Impacts and Mitigation Measures

COMMUNICATIONS

To provide communication lines and infrastructure to support the proposed FRTC, the following existing infrastructure along Kahelu Avenue will need to be upgraded:

- One of the 2 ft. by 6 ft. handholes will need to be enlarged to a 4 ft. by 6 ft. Handhole
- A new 4 in. duct will need to be installed along the existing infrastructure from the 2 ft. by 4 ft. handhole that is located near AT&T's building across Kahelu Avenue.
- Existing Spectrum and Hawaiian Telcom overhead lines along the HECO joint utility poles (starting from the end of Kahelu Avenue and connecting to the north-south HECO transmission line) would be removed and rerouted through the new underground FRTC infrastructure and reconnected at Higgins Road to restore the existing services.

The proposed facilities and uses at the site would be serviced by Spectrum and Hawaiian Telcom infrastructure. The Spectrum infrastructure would consist of 2 ft. by 6 ft. handholes and two 4-in. conduit ducts spaced approximately 150 – 200 ft. apart. Hawaiian Telcom infrastructure would consist of 3 ft. by 5 ft. handholes and two 4 in. conduit ducts spaced approximately 150 – 200 ft. apart. Both the Spectrum and Hawaiian Telcom infrastructure would be extended from the end of Kahelu Avenue and would run along the proposed FRTC access road that extends to the end of Parcel 057 and would continue down the access road to the BWS reservoir and pump station. Existing utility infrastructure would be rerouted to run underground along the north-to-south roads within the campus. This would be used to restore the existing overhead services, support the various agencies on the east and west ends of the

campus, and provide redundant services to the campus. The proposed southern access road that extends to the east end of Parcel 057 would have underground infrastructure used to support the existing BWS pump station, as well as agencies located on the south end of the campus.

ELECTRICAL

The existing HECO lines would be relocated underground to accommodate the proposed uses and facilities at the FRTC. The 46 KV transmission line on the western end of Parcel 057 that runs from north to south would be intercepted with a new riser pole on both the north and south ends. A new underground duct and manhole system would be constructed along the campus road that runs from north-to-south to place the 46 KV transmission line underground.

A separate set of riser poles for the 12 KV distribution line will also be provided, and an underground duct and manhole system will be provided along the north-to-south campus road starting from the north end of the line to the end of Kahelu Avenue. The overhead line that runs from north to south of Parcel 057 on the eastern end of the parcel will be intercepted with two riser poles on each end of the line. This line will also be relocated underground and will consist of underground ducts and manholes.

The current estimated electrical load for the FRTC is 8.7 megawatts. The existing 12 KV HECO underground line at the end of Kahelu Avenue currently has the capacity to support the FRTC's street lighting, water system proposed in Phase A, and construction activities for Phase B development. The electrical distribution system will consist of various duct configurations and 6 ft. by 11 ft. manholes to serve the facilities within the campus. Each of the agencies will have to subscribe to HECO to provide services to meet their individual loads for their facilities. In addition, each agency will require a 16 ft. by 21 ft. automatic HECO switch pad and a separate HECO transformer pad for their facilities.

A HECO substation is proposed to be in the north-eastern portion of Parcel 057. The substation is anticipated to be approximately 100 ft. by 137 ft. in size. It is anticipated that the substation will be in operation when Phase B buildings and facilities are completed for occupancy. The north-eastern corner of Parcel 057 has been set aside for the development of future ancillary HECO infrastructure.

WATER

The existing BWS water distribution source servicing the MTP is the Wahiawa 994' reservoir. This reservoir is located between Parcel 057 and 039 and has a capacity of 1.5 MG. The existing waterline line connecting the existing water tank to MTP will be realigned within the property to the location of the new roads. The Wahiawa 994' reservoir is situated at an elevation that would not provide the required 30 pounds per square inch (psi) minimum water pressure to service the FRTC, therefore a new well and water storage tank is proposed to be developed in

Phase A on the southwestern end of Parcel 057. Water will be pumped from the well and flow through a chlorination building prior to filling the new water tank. From there, a booster pump station will transport water from the tank to the project site. The Waipahu-Waiawa Aquifer has available unallocated supply that could meet the demands of the FRTC, thus a well is proposed to be drilled in the southwestern end of Parcel 057. The total estimated water demands of the First Responders Tech Campus are:

- Average Daily Demand = 249,700 gal/day
- Max. Daily Demand = 374,550 gal/day
- Peak Hour = 31,213 gal/hour

Pipelines shall be sized to meet the criteria per the *BWS Water System Standards 2002*:

- The peak hour flow with a minimum residual pressure of 40 psi.
- The maximum daily flow plus fire flow with a residual pressure of 20 psi at the first fire hydrant to drop below the 20 psi pressure, also known as the "critical fire hydrant".

The total estimated water demand does not include the water demand for the onsite fire fighter training facility. The facility proposes to use reclaimed non-potable water; thus, the water demands are excluded. The firefighting training facility overall estimated demand is 228,600 gallons a day, as it will involve the use of fire hydrants and other firefighting devices and appurtenances.

The estimated water demands were calculated using a comparison of water demand rates based on *BWS Water System Standards 2002* (Figure 15) and the water consumption data for the nearby MTP. The estimated demand rates based on the *BWS Water System Standards 2002* were considered to be overly conservative and based on preliminary discussions with the BWS it was determined that the overall water demand should be reflected as accurately as possible to ensure that aquifer demands are not over-stated. Thus, the water consumption data from the MTP was used to calculate demand rates on a per acre basis in order to provide estimated water demand rates that can be considered more representative of expected demand rates and slightly less conservative than the criteria included within the BWS planning criteria. Table 18 presents a comparison of the BWS standard planning rates, the demand rates from the MTP, and the proposed demand rates that will be used within the FRTC water system planning, analysis, and design.

The new water storage tank will be sized to meet the maximum daily consumption. The reservoir shall be full at the beginning of the 24-hour period with no source input to the reservoir. Based on the BWS Water System standards, the required capacity of the new storage tank is 0.38 MG. As the BWS requires either a 0.30 MG or 0.50 MG tank, a 0.50 MG tank is proposed.

Figure 15: BWS Water System Standards 2002, Table 100-18 Domestic Consumption Guidelines

Table 100-18 - DOMESTIC CONSUMPTION GUIDELINES				
AVERAGE DAILY DEMAND*				
ZONING DESIGNATION	HAWAII	KAUAI	MAUI	OAHU
RESIDENTIAL:				
Single Family or Duplex	400 gals/unit	500 gals/unit	600 gals/unit or 3000 gals/acre	500 gals/unit or 2500 gals/acre
Multi-Family Low Rise	400 gals/unit	350 gals/unit	560 gals/unit or 5000 gals/acre	400 gals/unit or 4000 gals/acre
Multi-Family High Rise	400 gals/unit	350 gals/unit	560 gals/unit	300 gals/unit
COMMERCIAL:				
Commercial Only	3000 gals/acre	3000 gals/acre	6000 gals/acre	3000 gals/acre
Commercial/Industrial Mix	--	5000 gals/acre	140 gals/1000 sq. ft.	100 gals/1000 sq. ft.
Commercial/Residential Mix	--	3000 gals/acre	140 gals/1000 sq. ft.	120 gals/1000 sq. ft.
RESORT (To include hotel for Maui only)	400 gals/unit (1)	350 gals/unit	350 gals/unit or 17000 gals/acre	350 gals/unit or 4000 gals/acre
LIGHT INDUSTRY:	4000 gals/acre	4000 gals/acre	6000 gals/acre	4000 gals/acre
SCHOOLS, PARKS:	4000 gals/acre or 60 gals/student	4000 gals/acre or 60 gals/student	1700 gals/acre or 60 gals/student	4000 gals/acre or 60 gals/student
AGRICULTURE:		2,500 gals/acre	5000 gals/acre	4000 gals/acre

Table 18: Comparison of Water Demand Rates

Land Use	BWS Standard (GPD/AC)	Mililani Tech Park (GPD/AC)	FRTC Demand Rate (GPD/AC)
Commercial	3,000	1,045	1,500
Warehouse	n/a	1,121	1,500
Hotel & Dorm	350	n/a	175
Housing	400	n/a	200

WASTEWATER

The proposed sewer system to service the FRTC will be designed to comply with the *Wastewater System Design Standards Volume 1, City and County of Honolulu, July 2017*. An existing City 18 in. sewer line runs along Kahelu Avenue. The as-built drawings for the Mililani Technology Park 20 in. and 24 in. Water Line 90-009P shows a future 18 in. sewer line that runs along the BWS access easement; as of publication of this Draft EIS, this sewer line has not been constructed.

Based on the *City and County of Honolulu, Environmental Services Wastewater Design Standards July 2017*, an average daily per capita wastewater flow of 70 gallons per capita per day (gpcd) was used to calculate the sewer design flows along with the following capita per acre (cpa) rates shown in Figure 16.

Figure 16: Wastewater Design Standards July 2017, Capita per Acre (cpa) Rates

The following equivalent populations in capita per acre (cpa) shall be considered for the various land uses.

1.	Business Mixed Use-Central (BMX-4)	300 cpa
2.	Business Mixed Use-Community (BMX-3)	200 cpa
3.	Community Business (B-2)	140 cpa
4.	Neighborhood Business (B-1)	40 cpa
5.	Resort	400 cpa
6.	Apartment Mixed Use-High Density (AMX-3)	450 cpa
7.	High Density Apartment (A-3)	250 cpa
8.	Apartment Mixed Use-Medium Density (AMX-2)	310 cpa
9.	Medium Density Apartment (A-2)	170 cpa
10.	Apartment Mixed use-Low Density (AMX-1)	130 cpa
11.	Low Density Apartment (A-1)	90 cpa
12.	General Industry (I-1, I-2)	100 cpa
13.	Waterfront Industry (I-3)	100 cpa
14.	Industrial Mixed Use District (IMX-1)	100 cpa

An equivalent population was determined based upon the proposed land uses in acres, plus additional flows from washing unoccupied areas, the pool, and the vehicle wash facility. The overall design sewer flow is estimated to be 783,242 gallons per day; with a 30% added contingency the adjusted total becomes approximately 1,018,215 gallons per day.

The proposed sewer system layout slopes down from the east to the west of Parcel 057. The sewer connection point would be located at a sewer manhole on Kahelu Avenue; the existing sewer main at this connection point is an 18 in. diameter pipe. Sewer capacity is not known to be a problem within this area. A sewer connection application has been submitted to DPP's Wastewater Branch to verify that the sewer connection point has the capacity to support the proposed development. If the sewer connection point does not have the required capacity needed, offsite improvements to the sewer system would need to be made.

Storm Drainage/Low Impact Development (LID)

All proposed drainage improvements for the FRTC would comply with the latest City and County of Honolulu's *Rules Relating to Storm Drainage Standards and Rules Relating to Water Quality*. Per the *Rules Relating to Storm Drainage Standards*, the proposed project would be classified as a Priority A1 Project since it is a new development that disturbs at least one acre of land, is at least five acres in size, and is not required to obtain a separate industrial NPDES storm water permit from DOH for long term storm water discharges. As a Priority A1 Project, Low Impact Development (LID) strategies and BMPs should be incorporated into the site design to the maximum extent possible.

To comply with the storm drainage standards, storm water shall be detained onsite using post construction BMPs such as detention basins, trenches, underground storage, bioretention, and/or permeable pavement prior to being released at pre-development rates. Any storm water that is not retained onsite shall be biofiltered using post construction BMPs such as vegetated bio-filters, swales, and buffer strips.

Additional requirements of a Priority A project include submitting a Storm Water Quality Strategic Plan as part of the Master Development Plan, a Storm Water Quality Report (SWQR), and Storm Water Quality Checklists (SWQC). The SWQR and SWQC shall be prepared by a Certified Water Pollution Plan Preparer (CWPPP). Additionally, the SWQR must be reviewed and approved by the DPP Director prior to issuance of any building, grading, grubbing, or stockpiling permits.

Fire Flow and Fire Hydrants

All facilities or buildings must be within 150 ft. of a water supply source (fire hydrant). If a facility or building is protected throughout by an approved automatic sprinkler system, the distance from the facility or building to the water supply may be increased to 450 ft. The fire flow requirements for the FRTC are 2,000 GPM of flow for a 2-hour fire duration with a fire hydrant spacing of 250 ft., which gives an anticipated fire flow of 480,000 gallons for the FRTC. These requirements are based off the *BWS Water System Standards 2002* (shown in Figure 17).

Fire department hose connections serving standpipe and sprinkler systems shall be located within 20 ft. of an access road. Sufficient water pressure will be required at fire hydrants and buildings that are equipped with fire sprinklers; the minimum pressure for buildings with sprinklers will depend on the height of the building and size of the waterlines.

Figure 17: BWS Water System Standards 2002, Table 100-19 Fire Flow Requirements

Table 100-19 - FIRE FLOW REQUIREMENTS				
LAND USE	FLOW (GPM)/DURATION (HRS)/FIRE HYDRANT SPACING (FT.)			
	HAWAII	KAUAI	MAUI	OAHU
Agriculture	500/0.5/600 (1)	250/1/500	500/2/500	1000/0.5/700
Rural			1000/2/500	
Single Family	(2)	(4)	1000/2/350	1000/1/350
Duplex	1500/1/300	(4)	1250/2/350	1000/1/350
PUD Townhouse and Low Rise Apartments	1500/1/300	(4)	(5)	1500/1/250
Schools, Neighborhood Businesses, Small Shopping Centers, Hotels (except Maui), and High Rise Apartments	2000/2/300	2000/2/350	2000/2/250	2000/2/250
Light Industry, Downtown Business, Large Shopping Center, and Hospitals	2,000/2/300	3000/3/350	2000/2/250	4000/3/250
Heavy Industry, Hotels	2,000/2/300	3000/3/350	2,500/2/ 250	(3)

3.10 Traffic

A *Traffic Impact Analysis Report (TIAR)* was prepared by SSFM International, Inc. that identified and analyzed existing conditions (for 2021), as well as anticipated future conditions aligned with each phase of the project (see Appendix G). The anticipated future conditions accounted for traffic growth and trips resulting from surrounding area development.

3.10.1 Existing Conditions

The proposed access to the FRTC would be from the end of Kahelu Avenue. The end of Kahelu Avenue is currently gated; past the gate is an unpaved road that leads to a BWS reservoir. The Launani Valley neighborhood containing both single- and multi-family residential housing is located south of the project site along Wikao Street. The U.S. Army Garrison property is located north of the project site along Higgins Road.

The H-2 Freeway is a State-owned, two-way, four-lane, median-separated urban-interstate that extends from the H-1 interchange in the south, and up to Wilikina Drive in the north. The freeway has paved shoulders with a 55 miles per hour (mph) posted speed limit in the study area.

Kamehameha Highway (State Route 99) is a two-way, four-lane, median-separated freeway/expressway heading in the north-south direction. There are currently sidewalks along the highway near Leilehua Road, but no marked bike facilities. The posted speed limit is 35 mph

in the study area. Vehicles driving along Kamehameha Highway will access the project site through the signalized intersection with Leilehua Road.

Leilehua Road is a City-owned, two-way, two-lane roadway oriented in the east-west direction with a collector functional classification. Leilehua Road extends from Kamehameha Highway in the west to Wikao Street in the east, at which point it turns into Kahelu Avenue. Dedicated left turn lanes are provided at both the Wahiawa Park and Ride and at the H-2 Freeway on-ramp intersections. Paved sidewalks exist along Leilehua Road from Kamehameha Highway to the Wahiawa Park and ride; minimal shoulder widths are provided along the bridge deck as Leilehua Road passes over the H-2 Freeway. No marked bike facilities exist along this stretch of roadway.

Kahelu Avenue is a City-owned, two-way, four-lane, median divided roadway with a collector functional classification. It currently terminates approximately 0.8 miles east of Wikao Street, at which point a private gate leads to an unpaved road to the BWS reservoir. Varying width shoulders, paved sidewalks, and signed/marked bike lanes exist along the corridor. The posted speed limit is 30 mph in the study area.

In the TIAR, eight study intersections were analyzed and confirmed as adequate by HDOT. The study intersections are shown in Figure 18; the existing lane configurations at the intersections are shown in Figure 19. Multimodal facilities within the study area are shown in Figure 20. The study intersections were selected by identifying the significant intersections anticipated to be impacted by project-related trips and adding 3% or greater traffic to their forecasted volumes, per HDOT standard practice. For the assessment conducted in the TIAR, the private development uses were separated from the project-related trips.

Vehicle Volumes

Historic DOT traffic counts on the H-2 Freeway at Leilehua Road were available from 2013 to 2020; Figure 18 shows the location of the traffic counting stations. Traffic counts were collected on Thursday, August 31, 2021 at the same location for a 24-hour period by means of two-directional tube counts. Summaries of the historical DOT and recent 2021 counts are shown in Table 19. Based on the data, it can be inferred that the 2020 and 2021 traffic counts were impacted by the COVID-19 pandemic since volumes were lower than the previous six (6) years.

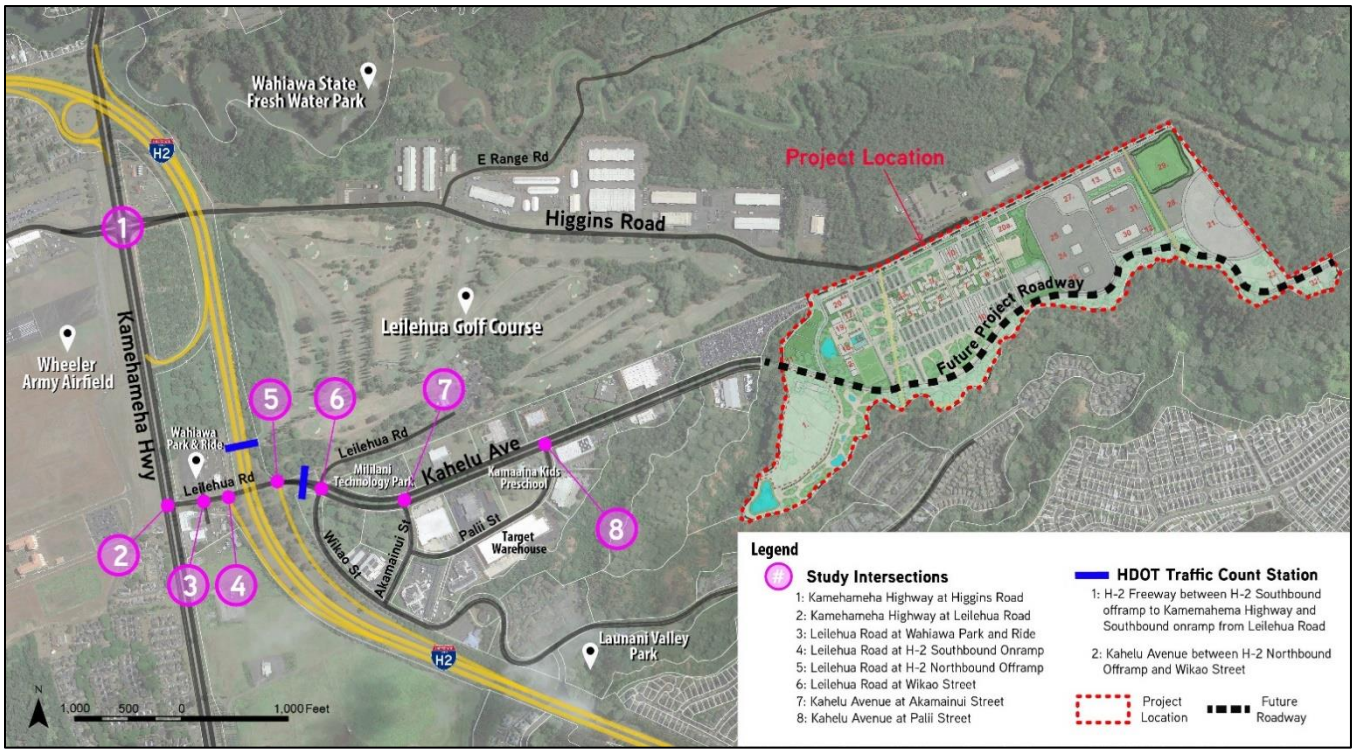
Although traffic volumes fluctuated from year to year, the peak hour volumes occurred around the same time; 2021 AM commuter peak hours were found to occur between 7:15AM – 8:15AM and PM commuter peak hours were between 4:00PM – 5:00PM.

Table 19: 24-Hour Volumes on the H-2 Freeway between Leilehua Road/Higgins Road

Year	Average Daily Traffic (ADT) or 24-hour Average
2013	57,632
2014	58,788
2015	60,839
2016	63,754
2017	61,357
2018	63,528
2019	61,346
2020	54,657
2021	57,509

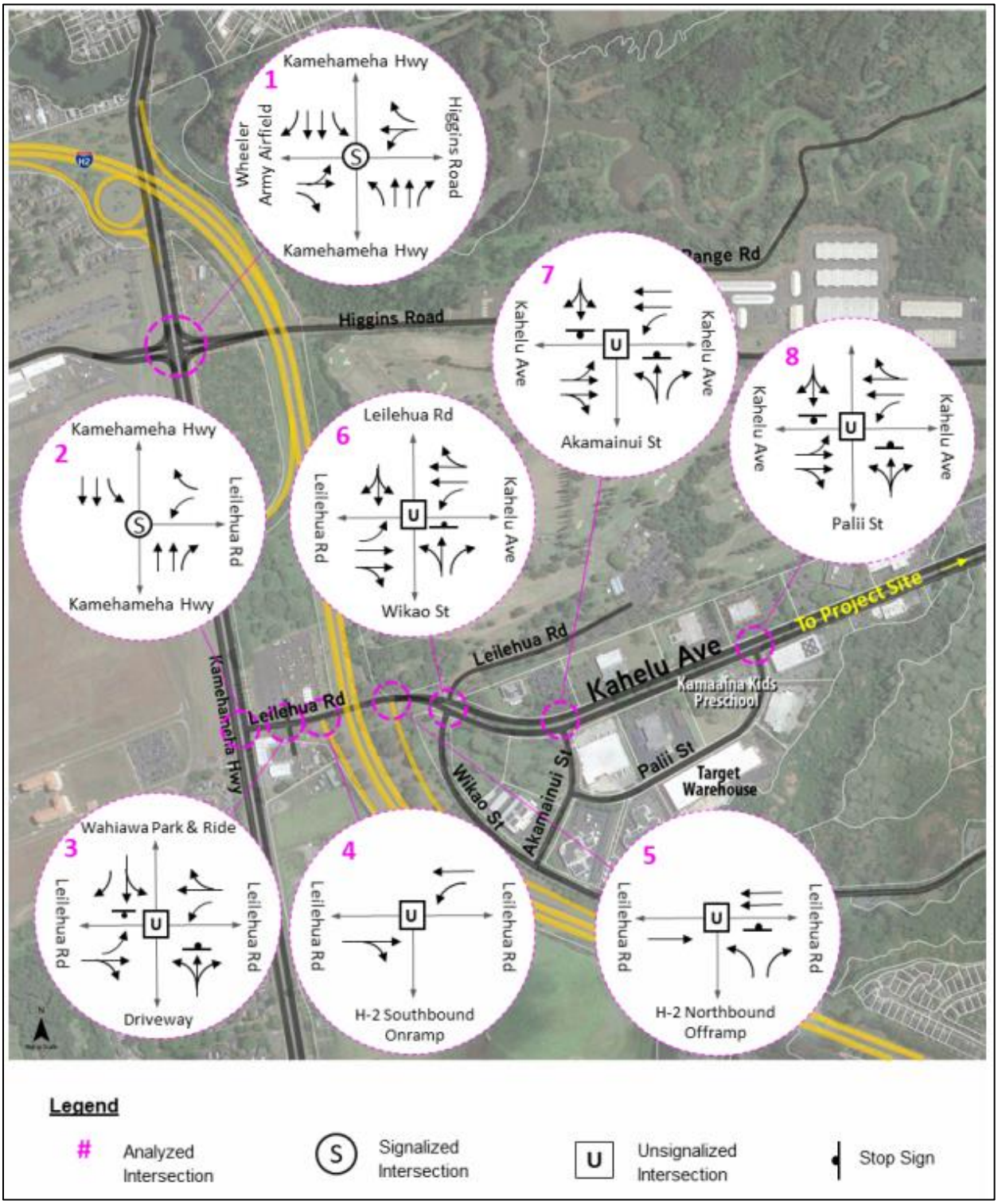
Source: HDOT

Figure 18: Study Intersections and HDOT Tube Count Stations



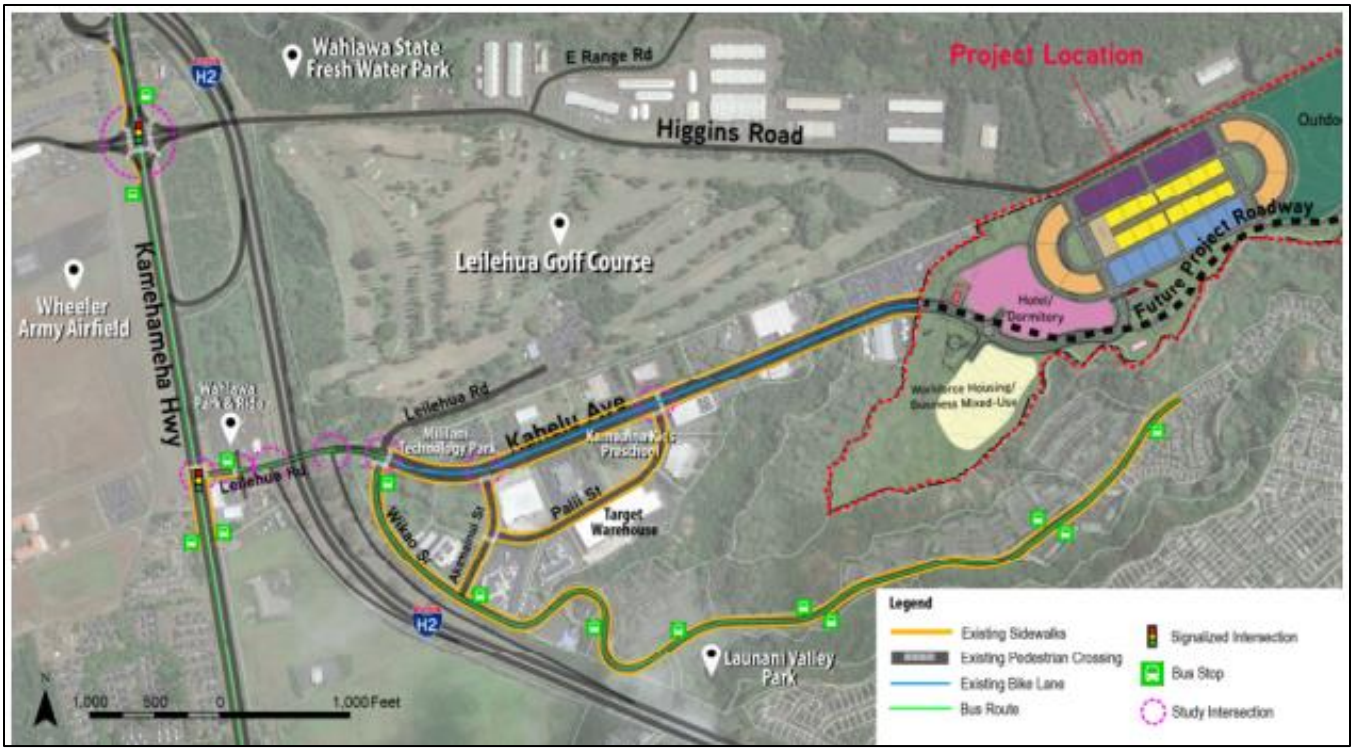
Source: SSFM

Figure 19: Existing Lane Configurations



Source: SSFM

Figure 20: Existing Multimodal Facilities



Source: SSFM

Historic DOT data is typically taken on consecutive weekdays throughout the year, as was the case for those collected on the H-2 Freeway at Leilehua Road. Traffic volumes can vary during different months of the year due to holidays, school days, weather, and other factors. To compensate for this, a seasonal adjustment factor can be applied to normalize traffic volumes, regardless of when they were collected. Unlike the counts taken on the H-2 Freeway at Leilehua Road, counts at a nearby H-2 Freeway counting station located at milepost (MP) 4.0 between Mililani and Waipio were taken daily by HDOT. These counts were used to determine monthly average traffic volumes, which were analyzed from 2014 to 2016. The monthly average traffic volume was compared to the annual average traffic volume to determine a seasonal adjustment factor.

The resulting seasonal adjustment factors were then applied to the H-2 Freeway traffic volumes at Leilehua Road. Based off the seasonally adjusted 2013 to 2019 DOT traffic volumes, excluding 2020 to 2021 due to COVID-19 impacts, the historic annual traffic volume growth rate on the H-2 Freeway was found to be approximately 1.46%, thus the report will utilize an annual background growth rate of 1.5%.

Based on data collected, a 7% COVID-19 pandemic adjustment factor was applied to the 2021 regional traffic volumes to create a "2019 DOT equivalent." Regional traffic volumes at study

intersections in the area were considered to be vehicles travelling NB and SB on both the H-2 Freeway and on Kamehameha Highway. Figure 21 shows the movements in red at the study intersections that were considered part of the regional traffic volumes to be adjusted.

Intersection Peak Turning Movement Counts
Turning movement counts were taken at the eight existing study intersections on Tuesday, August 31, 2021 from 6:00AM – 10:00AM and from 2:15PM – 5:15PM. The AM and PM peak commuter hours occurred between 7:15AM – 8:15AM and from 4:00PM – 5:00PM, respectively.

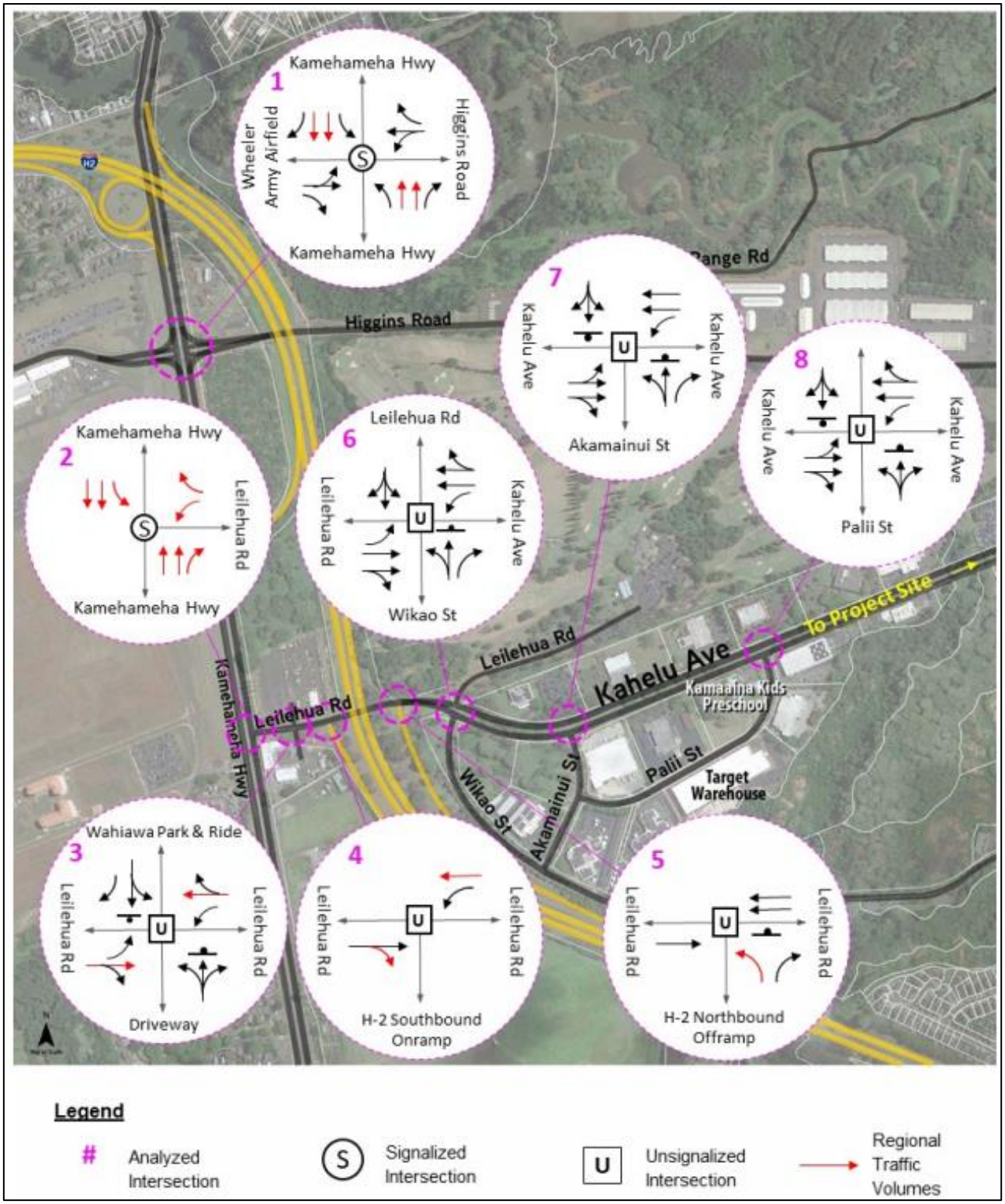
Businesses, schools, and churches in the MTP area whose contact information was readily available online were contacted by phone and email to confirm full in-person staffing and employment. Based on the responses collected, local COVID-19 factors were not applicable, therefore traffic volumes collected along Kahelu Avenue were not adjusted.

Figure 22 shows the AM and PM peak hour volumes at the study intersections after applying the COVID-19 adjustment factor (7%) and an annual growth rate of 1.5% over two years to the volumes that reflect regional growth.

Transit Facilities
The City's public bus transit system (TheBus) has numerous bus routes that pass within vicinity of the project area, although none travel down Kahelu Avenue. The closest bus stops are along Leilehua Road, located east of Kamehameha Highway at the Wahiawa Park & Ride (Stop IDS #2776 and #2777). These stops serve five bus routes (Routes 83, 84, 98, 98A, and 503) with direct connections to major destinations including Mililani, Wahiawa, Haleiwa, and Downtown Honolulu. Bus ridership provided by TheBus for the period between October 31, 2021 to November 17, 2021 shows minimal onboardings at stops #2776 and #2777, with an average of 2.3 and 7.7 weekday riders getting on at each respective stop. The next closest bus stops to the project site are along Kamehameha Highway, south of Leilehua Road (Stop IDs #1630 and #1687). Onboardings at these stops are also minimal, with an average of 3.6 and 12.8 weekday riders boarding at stops #1630 and #1687, respectively.

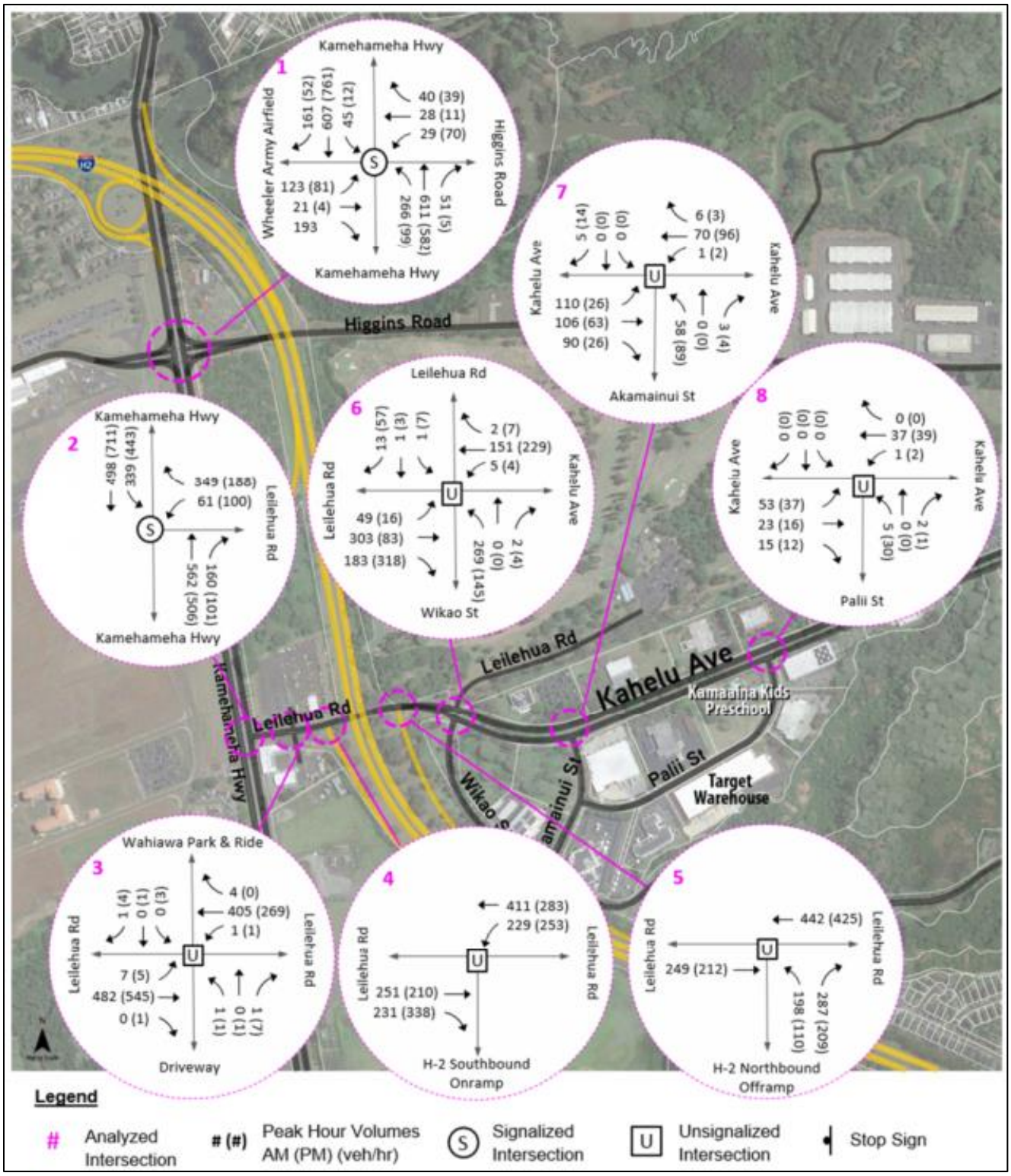
Pedestrian and Bike Volumes
Peak hour intersection pedestrian and bicycle volumes were taken at the existing study intersections on August 31, 2021 from 6:00AM – 10:00AM and from 2:15PM – 5:15PM. Based on the counts taken, the pedestrian volumes were higher in the AM peak hour. Bicycle volumes were minimal; the highest volume of bicycle traffic occurred at the intersection of Kamehameha Highway at Higgins Road during the PM peak hour. Table 20 provides a summary of the pedestrian and bicycle counts.

Figure 21: Study Intersection Regional Traffic Volume Movements



Source: SSFM

Figure 22: 2021 Adjusted Intersection Peak Hour Volumes



Source: SSFM

Table 20: Peak Hour Pedestrian and Bicycle Volumes

Intersection	Pedestrian		Bicycle	
	AM Peak Hours	PM Peak Hours	AM Peak Hours	PM Peak Hours
Kamehameha Highway and Higgins Road	7	5	1	6
Kamehameha Highway and Leilehua Road	6	0	0	0
Leilehua Road and Wahiawa Park & Ride/Army National Guard Driveway	18	7	0	0
Leilehua Road and H-2 Southbound On-Ramp	4	0	0	0
Leilehua Road & H-2 Northbound Off-Ramp	3	0	0	0
Kahelu Avenue and Leilehua Rd/Wikao St	8	0	0	0
Kahelu Avenue and Akamainui Street	14	0	0	1
Kahelu Avenue and Palii Street	10	0	0	0

Source: SSFM

3.10.2 Existing Vehicular Level of Service (LOS)

Level of service (LOS) is a rating system used to measure the effectiveness of roadway operating conditions that ranges from A to F; LOS A is defined as being the least interrupted flow conditions with little or no delays, while LOS F is defined as conditions where extreme delays exist. Another measure of intersection operation is the volume to capacity (v/c) ratio, which represents the ratio of the volume of traffic utilizing the intersection compared to the maximum volume of vehicles that can be accommodated by the intersection during a specific period. A v/c ratio under 0.85 means the intersection is operating under capacity and excessive delays are not experienced. An intersection is operating near its capacity when v/c ratios range from 0.85 to 0.95, and unstable flows are expected when the v/c ratio is between 0.95 and 1.0. Any v/c ratio greater than or equal to 1.0 indicates that the intersection is operating at or above capacity, which results in a LOS F per the *Highway Capacity Manual* (HCM). An intersection may have a poor LOS but low v/c, which would suggest that the traffic volumes along that movement are low but must wait a long time to make the movement. This is common for low volume protected turn movements or side streets that must wait through a long cycle length to be able to make a turn.

Existing LOS and delay (in seconds per vehicle) were determined for the AM and PM peak hours using Synchro 10 traffic analysis software. Traffic signals on Kamehameha Highway in the study area were observed to be fully actuated and not coordinated, therefore traffic signals on Kamehameha Highway were analyzed as semi-actuated and uncoordinated. Table 21 shows the existing vehicular delay and LOS at each intersection, with the highlighted rows indicating the overall intersection delay.

All movements at the following signalized intersections resulted in appropriate LOS D or better during AM and PM peak hours:

- Kamehameha Highway at Higgins Road
- Kamehameha Highway at Leilehua Road

All movements at the following unsignalized intersections resulted in appropriate LOS D or better during AM and PM peak hours:

- Leilehua Road at Wahiawa Park & Ride Facility/Army National Guard Driveway
- Leilehua Road at the H-2 Freeway SB On-ramp
- Leilehua Road at the H-2 Freeway NB Off-ramp
- Kahelu Avenue at Akamainui Street
- Kahelu Avenue at Palii Street

At the unsignalized intersection of Leilehua Road and Wikao Street, the NB left turning movement had a LOS F with a v/c ratio of 0.98 during the AM peak hours. The long delay for the NB left turn movement during the AM peak hours could likely be attributed to many of the residents from residential dwellings along Wikao Street commuting to work in the morning. During the site visit conducted on November 9, 2021, the observed delay was much less than the 82 seconds calculated. During PM peak hours, this turning movement operated at a LOS C with a v/c ratio of 0.34. All other movements at this intersection operate at acceptable LOS during both the AM and PM peak hours.

Eight-hour and four-hour traffic signal warrants were evaluated at the unsignalized intersection of Kahelu Avenue and Wikao Street where the NB left turning movement operated at a LOS F during the AM peak hours. A detailed analysis of both warrants is included in the TIAR. Based on the analysis, the intersection did not satisfy the eight-hour or the four-hour traffic signal warrant and thus is not recommended to be signalized at this time.

Table 21: Existing (2021) LOS

Intersection	AM			PM		
	Delay (sec/veh)	v/c	LOS	Delay (sec/veh)	v/c	LOS
Kamehameha Hwy & Higgins Rd	**18.8**	**-**	**B**	**11.7**	**-**	**B**
Kamehameha NB Left	39.9	0.86	D	47.1	0.78	D
Kamehameha NB Through	6.6	0.29	A	3.9	0.24	A
Kamehameha SB Left	51.5	0.68	D	52.7	0.47	D
Kamehameha SB Through	13.6	0.37	B	6.4	0.35	A
Higgins WB Left-Through	33.9	0.22	C	39.1	0.43	D
Higgins EB Left-Through	37.8	0.58	D	39.3	0.44	D
Kamehameha Hwy & Leilehua Rd	**16.2**	**-**	**B**	**18.4**	**-**	**B**
Kamehameha NB Through	11.2	0.31	B	16.1	0.33	B
Kamehameha SB Left	39.1	0.88	D	39.7	0.91	D
Kamehameha SB Through	1.5	0.18	A	2.3	0.26	A
Kahelu WB Left	53.9	0.76	D	50.4	0.78	D
Leilehua Rd & Waiawa Park + Ride/Army National Guard Driveway	**Unsignalized (TWSC)**			**Unsignalized (TWSC)**		
Army National Guard Driveway NB Left-Through-Right	17.5	0.01	C	14.1	0.03	B
Waiawa Park + Ride SB Left-Through	N/A	N/A	N/A	19.9	0.02	C
Waiawa Park + Ride SB Right	11.3	0.00	B	10.0	0.01	B
Kahelu WB Left	8.6	0.00	A	8.7	0.00	A
Kahelu EB Left	8.3	0.01	A	7.9	0.00	A
Leilehua Rd & H-2 SB On-Ramp	**Unsignalized**			**Unsignalized**		
Kahelu WB Left	9.4	0.23	A	40.2	0.29	B
Leilehua Rd & H-2 NB Off-Ramp	**Unsignalized (TWSC)**			**Unsignalized (TWSC)**		
H-2 NB Left	17.0	0.42	C	13.3	0.21	B
H-2 NB Right	12.8	0.40	B	11.1	0.27	B
Kahelu Ave & Wikao St/Leilehua Road	**Unsignalized (TWSC)**			**Unsignalized (TWSC)**		
Wikao NB Left-Through	81.7	0.98	F	16.7	0.34	C
Wikao NB Right	10.1	0.00	B	9.6	0.01	A
Wikao SB Left-Through-Right	9.8	0.02	A	10.0	0.09	B
Kahelu WB Left	8.6	0.01	A	8.2	0.00	A
Kahelu EB Left	7.7	0.04	A	7.8	0.01	A
Kahelu Ave & Akamainui St	**Unsignalized (TWSC)**			**Unsignalized (TWSC)**		
Akamainui NB Left-Through	17.3	0.21	C	11.1	0.15	B
Akamainui NB Right	9.1	0.01	A	8.6	0.01	A
Akamainui SB Left-Through-Right	8.7	0.01	A	8.7	0.02	A
Kahelu WB Left	7.8	0.00	A	7.4	0.00	A
Kahelu EB Left-Through	7.7	0.10	A	7.5	0.02	A
Kahelu Ave & Pali St	**Unsignalized (TWSC)**			**Unsignalized (TWSC)**		
Palii NB Left-Through-Right	9.6	0.01	A	9.7	0.05	A
Palii SB Left-Through-Right*	N/A	N/A	N/A	N/A	N/A	N/A
Kahelu WB Left	7.3	0.00	A	7.3	0.00	A
Kahelu EB Left-Through	7.4	0.04	A	7.4	0.03	A

Source: SSFM

3.10.3 Speed Limit Analysis

The existing posted speed limit along Kahelu Avenue, east of Wikao Street, is 30 mph in both directions; west of Wikao Street the speed limit drops to 25 mph in both directions. An analysis on the appropriate speed limit along Kahelu Avenue, the street adjacent to the proposed

project, was conducted on January 13, 2022. In order to analyze existing vehicular travel speeds, a spot speed study was conducted along Kahelu Avenue east of Wikao Street. Spot speeds were only taken for vehicles perceived to be traveling at free-flow speeds, for example only the speed of the first vehicle of a platoon of vehicles was recorded as the trailing vehicles may not have been able to travel at their ideal speed. In addition, speeds were not collected for vehicles that had either just turned onto Kahelu Avenue or were decelerating to turn off Kahelu Avenue further down the road. A total of 123 spot speeds were collected for eastbound traffic along Kahelu Avenue, east of Wikao Street, from 7:00AM until 7:45AM. A total of 109 spot speeds were collected for westbound traffic along Kahelu Avenue, east of Wikao Street, from 7:45AM until 9:00AM. Resulting speed metrics for both directions are shown in Table 22.

Table 22: Kahelu Avenue Spot Speeds

Direction	Posted Speed Limit	50th Percentile Speed	85th Percentile Speed	Standard Deviation	% of Vehicles Speeding	Max Speed Observed
Eastbound Kahelu	30 mph	31 mph	35 mph	3.27 mph	59%	41 mph
Westbound Kahelu	30 mph	31 mph	33 mph	4.44 mph	44%	51 mph

Source: SSFM

50th percentile speeds were 31 mph in both directions, which is 1 mph above the posted speed limit. Vehicles traveling in the eastbound direction travelled slightly faster than those in the westbound direction, with a majority traveling at higher speeds than the posted speed limit.

The National Association of City Transportation Officials (NACTO) uses a risk matrix and analyzes conflict density and activity level to determine appropriate speed limits for urban streets. Based upon NACTO classifications, Kahelu Avenue is considered to have moderate modal mixing and moderate conflict density. Since Kahelu Avenue has minimal pedestrian and bike volumes and no transit stops, it is classified as having low activity per NACTO guidelines. Corridors with moderate conflict density and low activity are recommended to have a 25-mph speed limit, which is 5 mph lower than the existing 30 mph posted speed limit. It should be noted that NACTO is primarily focused on urban streets with urban amenities and higher volumes, which is not a fitting description of Kahelu Avenue as it is primarily a low volume roadway in a suburban/exurban surrounding area.

The Manual on Uniform Traffic Control Devices (*MUTCD*), published by the FHWA, recommends setting speed limits in accordance with the 85th percentile speed, noting that drivers who drive faster than posted speed limits disproportionately cause more crashes. By using an 85th percentile speed, less drivers should theoretically be travelling over the posted speed limit. Using *MUTCD* recommendations, the appropriate speed limit would increase to 35 mph, which was the rounded 85th percentile speed. It should be noted that *MUTCD* recommendations are

more targeted towards highways and therefore the 85th percentile speed limits may not be appropriate for roadways with multimodal amenities.

The Institute of Transportation Engineers (ITE) provides guidance suggesting flexibility in setting the speed limit based on the existing travel speeds and surrounding area context. Observations taken during the speed study did not show high levels of aggressive and unsafe driver behavior. Other factors considered include the minimal crash history along the corridor, low traffic volumes, and multimodal conflicts. Considering the average of the recommended speeds from the NACTO and *MUTCD* methods aligns with the 50th percentile speed and existing speed limit, it is recommended that the existing 30 mph speed limit be kept as is.

3.10.4 Pedestrian Environmental Quality Index (PEQI)

The Pedestrian Environmental Quality Index (PEQI) analysis was used to assess the quality of pedestrian facilities at intersections and long segments of the Kahelu Avenue/Leilehua Road corridor leading to the project site. The PEQI methodology uses 36 inputs to determine a PEQI score, which is then represented by a pedestrian comfort scale ranging from 1 (best) to 4 (worst). Based on the *Honolulu Traffic Impact Analysis (TIA) Guide*, Leilehua Road and Kahelu Avenue are both classified as "avenues", which is representative of a 2 mode score for pedestrians. The resulting PEQI intersection outputs are shown in Table 23Table 23:; full scoring and analysis can be found in the draft TIAR.

Table 23: PEQI Intersection Outputs

Major Street	Intersecting Street	Control Type	Final Score	Pedestrian Comfort Scale [1 (best) to 4 (worst)]
Kamehameha Highway	Leilehua Road	Signal	29.4	3.0
Leilehua Road	Park & Ride Lot/Army National Guard Driveway	Stop	19.8	4.0
	H-2 SB On-ramp	Stop	-8.3	4.0
	H-2 NB Off-ramp	Stop	1.0	4.0
	Wikao Street	Stop	30.2	3.0
Kahelu Avenue	Akamainui Street	Stop	37.5	3.0
	Palii Street	Stop	37.5	3.0

Source: SSFM

Each side of the road was analyzed separately to account for differing factors, such as the number of curb cuts. The resulting PEQI segment outputs are shown in Table 24.

Table 24: PEQI Segment Outputs

Street	From	To	Final Score	Pedestrian Comfort Scale [1 (best) to 4 (worst)]
Leilehua Road (North Side)	Kamehameha Highway	Wikao Street	39.1	3.0
Leilehua Road (South Side)	Kamehameha Highway	Wikao Street	39.1	3.0
Kahelu Avenue (North Side)	Wikao Street	Dead End	68.5	1.0
Kahelu Avenue (South Side)	Wikao Street	Dead End	69.1	1.0

Source: SSFM

The portion of Leilehua Road between Kamehameha Highway and Wikao Street performed below the recommended pedestrian mode score on both an intersection and segment basis. However, current pedestrian volumes along this portion of the corridor are minimal. This area currently only has sidewalk on the stretch just east of Kamehameha Highway, which drops off before approaching the H-2 Freeway, leaving a missing gap until it restarts again east of Wikao Street.

Along Kahelu Avenue, east of Wikao Street, the pedestrian segments performed better than the recommended mode score, although the intersections operated worse than the recommended mode score. The Honolulu Complete Streets Manual has guidelines for uncontrolled pedestrian crossings, which are based on factors such as roadway ADT and the roadway lane configuration. Based on these guidelines, installation of appropriate pedestrian signage for marked uncontrolled crosswalks along Kahelu Avenue is recommended. With this treatment, the PEQI intersection mode scores along this portion of Kahelu Avenue will improve to 2, which is the target mode score for pedestrians.

3.10.5 Bicycle Level of Stress Analysis

The Bicycle Level of Stress (LTS) analysis was used to assess the quality of bicycle facilities along the existing Kahelu/Leilehua corridor. The LTS methodology considers various factors such as

traffic volume, vehicle speeds, existing bike infrastructure, and roadway design. Bike LTS scores range from 1 (best) to 4 (worst). The recommended mode score for avenues is a 1 for bicycles.

Based on the analysis, the bicycle LTS score along Leilehua Road was a 4, which is below the recommended mode score of 1. However, the mode score along Kahelu Avenue was 2, which meets the recommendations. Similar to the pedestrian modal analysis, bicycle facilities west of Wikao are limited, resulting in higher LTS. With limited right-of-way (ROW) width in this area there is limited room for substantial improvement, such as adding bike lanes. However, the existing bicycle volumes are very minimal.

3.10.6 Future Without Project Conditions

Regional traffic growth and anticipated traffic from future surrounding area developments were added to the roadway network and analyzed for future years 2025, 2027, 2030, 2033, 2036, and 2038, which correspond to the anticipated phase completions of the FRTC. The following section is a summary of findings of future surrounding area development.

Statewide Transportation Improvements Program (STIP)
Research was completed on November 5, 2021 at the STIP FY 2019 – 2022 website. The STIP is a four-year forecast that identifies State and County transportation projects to be funded with Federal Highway and Federal Transit funds. As of November 5, 2021, there were no roadway construction or other projects listed in the STIP for FY 2019 – 2022 that would impact the project area.

Environmental Review Program (ERP)
Research was completed on November 5, 2021 at the State's Office of Planning and Sustainable Design (OPSD), Environmental Review Program (ERP) website, which provides EIS' and EAs available to the public. Projects in the surrounding area that had published EIS' or EAs between 2016 to 2021 were reviewed and are summarized below.

Wahiawa Civic Center
The Wahiawa Civic Center TIAR (Wilson Okamoto, 2021) was reviewed to determine the potential future impact. The proposed development is located in the town of Wahiawa and is approximately 1.5 miles north of the study area. The project proposes to redevelop existing government offices already in the area, as well as create a new judiciary district court and satellite city hall and licensing facility. This TIAR did not include traffic volume projections along Kamehameha Highway, therefore the minimal traffic generated from the project was assumed to not impact the study site and was not added to anticipated future volumes.

Whitmore Community Food Hub Complex
The Whitmore Community Food Hub Complex Mobility Analysis Report (Fehr & Peers, 2019) was reviewed to determine the potential future impact. The food hub complex is proposed to be near the intersection of Kamehameha Highway and Whitmore Avenue, approximately two

miles north of the study site. The project would provide supply chain infrastructure, packaging, and distribution facilities for locally grown food, and is expected to employ approximately 121 employees. The food hub complex is still in a planning phase and is projected to be completed by 2028. The traffic study forecasted an increase of traffic along Kamehameha Highway in relation to the project development. The on- and off-ramps for the H-2 Freeway situated close to the project along Wilikina Drive is anticipated to provide access for most users. Therefore, the anticipated traffic along Kamehameha Highway was assumed to not impact the FRTC study site and was not added to anticipated future volumes.

Koa Ridge Makai and Waiawa Developments

The Koa Ridge Makai and Waiawa Developments TIAR (Wilson Okamoto, 2009) was reviewed to determine the potential future impact. The development is a master-planned community proposed to be located just north of the town of Waipahu. Koa Ridge Makai is currently under development west of the H-2 Freeway. Full buildout was originally projected to occur in 2025, however, construction only recently started and will likely result in a delay to the project completion date. The community will feature a mix of residential, commercial, healthcare, and recreational facilities. In an effort to reduce the vehicular footprint of the community, developers have placed an emphasis on both pedestrian and transit facilities. The primary distribution (85%) of project-related traffic is projected to come to/from the south, while only a small portion (13%) is projected to come to/from the north. Due to the minimal distribution coming from areas surrounding the FRTC, it was determined that the project generated traffic would be captured in the background traffic growth rate, and therefore no additional volume for this development was added.

O'ahu Bike Plan

The 2019 O'ahu Bike Plan (Department of Transportation Services, 2019) proposes a shared roadway on Leilehua Golf Course Road, from Kamehameha Highway to the H-2 Freeway off-ramp (identified as Project 3-17). The proposed shared roadway is a Priority 3 project, meaning it is not a high priority and there are no immediate plans for construction. Considerations for this project was not used in the future analysis.

Central O'ahu Transportation Study

The Central O'ahu Transportation Study (SSFM, 2019) shows a proposed connection from Leilehua High School to Kahelu Road (identified as Project 906). However, Project 906 was not a recommended project and so considerations for this project were not used in the future analysis.

Various transportation plans, historical traffic volumes, and COVID-19 impacts were considered when determining the background growth volume for the surrounding region. The *Statewide Federal-Aid Highways 2035 Transportation Plan for the State of Hawai'i* (CH2M, 2014) forecasts a compounded annual increase in traffic volumes of 0.76% (see Table 25). However, this report

is not specific to the Central O'ahu region and did not consider the impact of COVID-19 or other growth-related impacts that have occurred since being published in 2014.

Table 25: Traffic Forecast – Daily Vehicle Trips on O'ahu

Year	Statewide Federal-Aid Highway 2035 Transportation Plan	
	Population	Vehicles
2007	905,500	1,418,100
2035	1,113,600	1,755,300
Growth Rate	0.99%	0.76%

Source: Statewide Federal-Aid Highways 2035 Transportation Plan for the State of Hawai'i, Department of Transportation Highways Division (CH2M Hill, 2014)

The growth rate based on the historical DOT counts from 2013 – 2019 on the H-2 Freeway at Leilehua Golf Course Rd was found to be approximately 1.46%. As such, a rounded annual growth rate of 1.5% was added to the regional traffic at the study intersections, including volumes associated with the NB and SB through volumes on the H-2 Freeway and Kamehameha Highway, which is anticipated to include impacts of unidentified developments in the area. The anticipated Future Without Project volumes forecast figures for 2025, 2027, 2030, 2033, 2036, and 2038 are included in the Draft TIAR in Appendix G.

Future Without Project LOS

Future Without Project LOS and delay were determined for the AM and PM peak hours for each of the future year scenarios using Synchro 10 traffic analysis software. Traffic signal cycle lengths were not modified from existing, but the split lengths were optimized. The following is a summary of the analysis for each of the future year scenarios; a more detailed analysis of the LOS and v/c of each intersection for each future year is included in the TIAR.

Based on the analysis, the movements at the following intersections resulted in a LOS D or better during the AM and PM peak hours for each of the future year scenarios (2025, 2027, 2030, 2033, 2036, and 2038):

- Kamehameha Highway at Higgins Road
- Kamehameha Highway at Leilehua Road
- Leilehua Road at Wahiawa Park and Ride Facility/Army National Guard Driveway
- Leilehua Road at the H-2 Freeway SB On-Ramp
- Leilehua Road at the H-2 Freeway NB Off-Ramp
- Kahelu Avenue at Akamainui Street
- Kahelu Avenue at Palii Street

The Leilehua Road at Wikao Street intersection NB left turning movement would continue to operate at LOS F for each of the future year scenarios. No traffic volumes were added to this

intersection for any of the future years, and it has been recommended to remain unsignalized as the intersection would not satisfy the eight-hour and four-hour signal warrant.

Potential Impacts and Mitigation Measures

Future With Project Conditions

Development is scheduled to take place over six phases over a minimum of 15 years. The expected traffic from the proposed project was determined using the following four-step methodology that considers trip generation, trip distribution, modal choice, and route assignment.

Trip Generation

Trip generation was calculated using rates from Trip Generation, 11th Edition (ITE, September 2021), which is a standard traffic engineering practice. The following land uses were included in the proposed project:

- **Multi-Family Housing (Low-Rise) (Land Use 220):** this includes residential apartments, condominiums, and townhouses with up to three floors. Trips generated by this land use are dependent on dwelling units and residents.
- **Hotels (Land Use 110):** provide lodging and supporting facilities, such as restaurants, meeting rooms, pools, and fitness rooms. Trips generated by this land use are dependent on the number of rooms and employees.
- **Recreational Community Centers (Land Use 495):** are considered stand-alone public facilities that includes rooms for classes, meetings, social activities, and other functions. Trips generated by this land use are dependent on the number of employees, gross floor area (GFA), or the number of community/association members.
- **Medical/Dental Office Building (Land Use 720):** are facilities with private physicians that provide outpatient and surgical care. Trips generated by this land use are dependent on the number of employees and GFA.
- **Government Office Building (Land Use 730):** are buildings containing the entire function of one agency of a City, County, State, or Federal government unit. Trips generated by this land use are dependent on the number of employees, GFA, or the municipal population. When possible, the number of employees were used to determine the trip generation; if employee counts were not available, the GFA was used.

Trip Distribution/Route Assignment

At the existing study intersections, the calculated project generated vehicular trips were distributed based on the 2021 intersection turning movement volumes. The figures included in the TIAR show only the forecasted project related trips distributed at the study intersections during the AM and PM peak hours, which are expected to align with the proposed trips and uses of the FRTC.

Modal Choice
To assume the worst-case conditions for traffic, all project generated external trips were assumed to be by private vehicle only. This aligns with the suburban/exurban surrounding land uses, limited multimodal infrastructure, and limited transit use.

Future With Project Volumes
The Future With Project volumes for each phase were calculated by adding the Future Without Project volumes with the project generated trips anticipated to occur during the specified phase (and previous phases), with exception of Phase A. Since there are no project generated trips anticipated to occur during Phase A of development, the Future 2025 With Project volumes are equivalent to the Future 2025 Without Project volumes. Figures showing the Future Without Project volumes and the project generated trips are included in the TIAR included in Appendix G.

Future With Project LOS – Phase B
Future 2027 With Project intersection and movement LOS and delay was determined for the AM and PM peak hours using Synchro 10 traffic analysis software and a HCM6 Roundabout Analysis spreadsheet, which are included in the TIAR. The cycle lengths at Kamehameha Highway and Higgins Road, as well as at Kamehameha Highway and Leilehua Road were based off the field-observed base conditions, while split lengths were optimized to account for additional traffic demands.

Based on the analysis, the movements at the following intersections resulted in a LOS D or better during the AM and PM peak hours for the Future 2027 scenario:

- Kamehameha Highway at Higgins Road
- Kamehameha Highway and Leilehua Road
- Leilehua Road at Wahiawa Park and Ride Facility/Army National Guard Driveway
- Leilehua Road at the H-2 Freeway SB On-Ramp
- Kahelu Avenue at Palii Street

The Leilehua Road at the H-2 Freeway NB Off-Ramp intersection operated at LOS E during the AM peak hour. This intersection currently operates as a two-way stop controlled intersection (TWSC). The LOS is a result of the increases in traffic coming off the H-2 and traffic along Leilehua Road due to the proposed project.

The Leilehua Road at Wikao Street intersection NB left turn operated at LOS F during the AM and PM peak hour. This intersection currently operates at a LOS E with the existing traffic conditions for the AM peak hour. The LOS significantly worsened due to the additional project generated traffic traveling along Kahelu Avenue and the two-way stop-control at this intersection.

The Kahelu Avenue at Akamainui Street NB left turn operated at LOS F during the AM peak hour. Although the traffic analysis shows this movement operating at an unacceptable LOS, mitigation was not deemed to be warranted for this intersection as a whole. All other movements at the intersection operated at LOS B or better during both the AM and PM peak hours, and the NB left turn volumes were relatively minor during the AM peak in which it operated at LOS F. Additionally, vehicles making this turn have an acceleration lane provided before merging onto Kahelu Avenue, which analysis from Synchro 10 is unable to account for.

Project Mitigation
The *MUTCD* was used to perform the traffic signal warrant analysis. The *MUTCD* states that the peak hour is only applicable at locations such as at a factory where shift changes cause a significant amount of traffic over a short period, and that "the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control system." Therefore, the impacts of a signal at the intersections were analyzed and are discussed below.

Leilehua Road at the H-2 Freeway NB Off-Ramp Intersection
Traffic Signal Warrant 3, Peak Hour from the *MUTCD* was analyzed using the Future 2027 With Project volumes at Leilehua Road and the H-2 Freeway NB Off-Ramp. To satisfy this warrant and merit the consideration of installing a traffic control signal, volume thresholds must fall above the applicable curve for either of the peak hours throughout the day. Note that for this intersection, the middle curve ("2 or More Lanes & 1 Lane") was used for analysis.

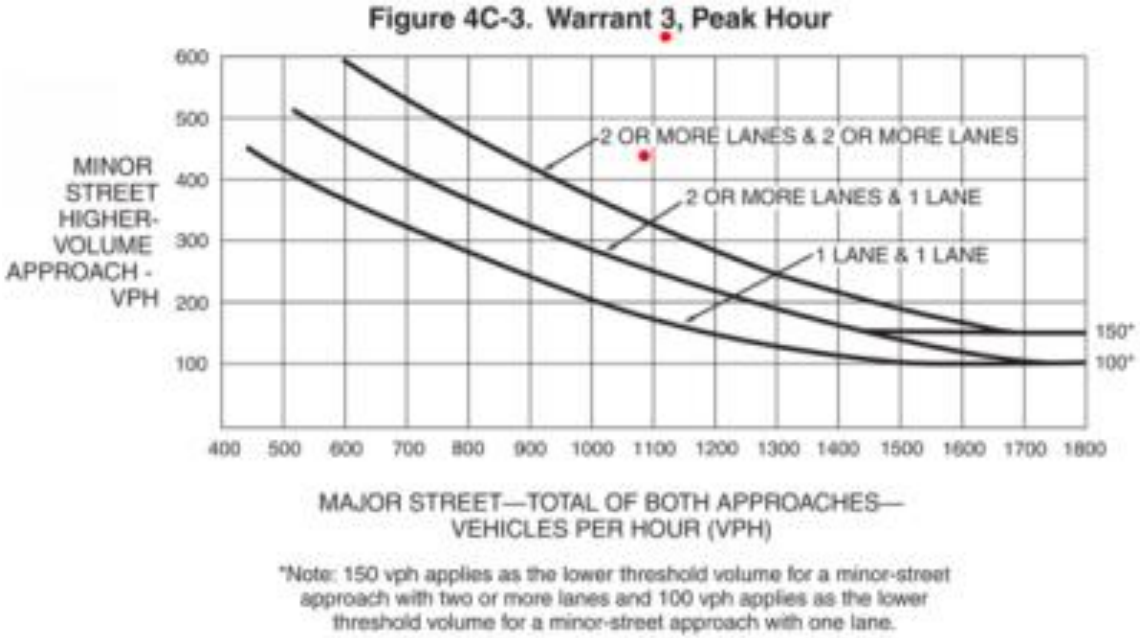
Table 26 shows the approach traffic volumes used for analysis at the Leilehua Road and H-2 Freeway NB Off-Ramp. After plotting approach volumes, both points fell above the applicable curve, meaning that this intersection passes Warrant 3 and merits the consideration of a traffic signal installation (see Figure 23).

Table 26: Peak Hour Warrant Analysis of Future 2027 With Project Conditions at Leilehua Rd and H-2 Freeway NB Off-Ramp

Leilehua Road at H-2 Freeway NB Off-Ramp			
Time	**Major Approach Volume**	**Minor Approach Volume**	**Pass Peak-Hour Warrant?**
7:15AM – 8:15AM	1119	716	Yes
4:00PM – 5:00PM	1088	437	Yes

Source: SSFM

Figure 23: Peak Hour Volume Thresholds at Leilehua Road/H-2 Freeway NB Off-Ramp



Source: MUTCD

Kahelu Avenue and Wikao Street Intersection

Traffic Signal Warrant 3, Peak Hour from the *MUTCD* was analyzed using the Future 2027 With Project volumes at Kahelu Avenue and Wikao Street, using a similar method as the Leilehua and H-2 Freeway NB Off-Ramp intersection analysis. The middle curve ("2 or More Lanes & 1 Lane") was also used for this analysis.

After plotting approach volumes, the AM peak hour point fell above the applicable curve, indicating that this intersection passes Warrant 3 and merits the consideration of a traffic signal installation.

Kahelu Avenue at Akamainui Street

Traffic Signal Warrant 3, Peak Hour from the *MUTCD* was analyzed using the Future 2027 With Project volumes at Kahelu Avenue and Akamainui Street. This intersection also utilized the middle curve for analysis. In order to pass the signal warrant, the minimum threshold volume on the minor street approach is 100 vehicles per hour. The Akamainui Street NB approach is not projected to have over 100 vehicles per hour, and therefore will not satisfy the peak hour warrant. Thus, the intersection at Kahelu Avenue and Akamainui Street is recommended to remain unsignalized.

Traffic Signal vs. Roundabout Comparison

The passing of the peak hour warrant does not mean that a traffic signal needs to be installed. The peak hour warrant was used as an indicator if a signal should be considered. In addition to a traffic signal, a multi-lane roundabout was included as another alternative. For the roundabout alternative, the existing number of approach lanes will remain unchanged.

The Future 2027 With Project analysis showed unacceptable LOS for a TWSC. The existing LOS conditions for the Leilehua Road and H-2 Freeway NB Off-Ramp and Leilehua Road and Wikao Street intersections are shown in comparison to the anticipated LOS with a signalized intersection and a roundabout in Tables 27 and 28 below.

Table 27: Future 2027 With Project LOS – Mitigation at Leilehua Road and the H-2 Freeway NB Off-Ramp

TWSC (Existing Conditions)	AM			PM		
	Delay (sec/veh)	v/c	LOS	Delay (sec/veh)	v/c	LOS
Leilehua Rd & H-2 NB Off-Ramp	**Unsignalized (TWSC)**			**Unsignalized (TWSC)**		
H-2 NB Left	32.8	0.66	D	19.2	0.34	C
H-2 NB Right	66.5	1.03	F	15.6	0.55	C
Traffic Signal - Permissive Phasing	**AM**			**PM**		
	Delay (sec/veh)	v/c	LOS	Delay (sec/veh)	v/c	LOS
Leilehua Rd & H-2 NB Off-Ramp	**14.6**	**-**	**B**	**13.0**	**-**	**B**
Leilehua WB Through	15.1	0.60	B	13.7	0.60	B
Leilehua EB Through	16.5	0.58	B	12.2	0.39	B
H-2 NB Left	10.0	0.30	A	10.3	0.18	B
Roundabout (Two WB Lanes, 1 EB Lane, 1 NB Lane w/ 1 Free Right Slip)	**AM**			**PM**		
	Delay (sec/veh)	v/c	LOS	Delay (sec/veh)	v/c	LOS
Leilehua Rd & H-2 NB Off-Ramp	**4.0**	**-**	**A**	**4.0**	**-**	**A**
Leilehua WB Through	6.0, 7.0	0.31, 0.36	A, A	6.0, 6.0	0.32, 0.36	A, A
Leilehua EB Through	5.0	0.28	A	4.0	0.210	A
H-2 NB Left	7.0	0.25	A	5.0	0.13	A
H-2 NB Right	0.0	0.00	A	0.0	0.00	A

Source: SSFM

Table 28: Future 2027 With Project LOS – Mitigation at Leilehua Road and Wikao Street

TWSC (Existing Conditions)	AM			PM		
	Delay (sec/veh)	v/c	LOS	Delay (sec/veh)	v/c	LOS
Kahelu Ave & Wikao St/Leilehua Road	Unsignalized (TWSC)			Unsignalized (TWSC)		
Wikao NB Left-Through	1126.4	3.29	F	105.3	0.94	F
Wikao NB Right	12.7	0.01	B	11.0	0.03	B
Wikao SB Left-Through-Right	14.0	0.04	B	14.6	0.17	B
Kahelu WB Left	10.8	0.02	B	9.2	0.01	A
Kahelu EB Left	8.6	0.05	A	9.1	0.02	A
Traffic Signal - Permissive Phasing	AM			PM		
	Delay (sec/veh)	v/c	LOS	Delay (sec/veh)	v/c	LOS
Kahelu Ave & Wikao St/Leilehua Road	**18.7**	-	**B**	**15.4**	-	**B**
Wikao NB Left-Through	15.7	0.480	B	11.7	0.250	B
Wikao NB Right	10.3	0.010	B	9.8	0.030	A
Wikao SB Left-Through-Right	10.4	0.030	B	10.4	0.110	B
Kahelu WB Left	19.5	0.070	B	16.5	0.040	B
Kahelu WB Through-Right	10.1	0.300	B	12.4	0.460	B
Kahelu EB Left	17.5	0.120	B	19.4	0.050	B
Kahelu EB Through-Right	23.6	0.710	C	18.9	0.330	B
Roundabout (Two Lanes on Major Approaches, One Lane on Minor Approaches)	AM			PM		
	Delay (sec/veh)	v/c	LOS	Delay (sec/veh)	v/c	LOS
Kahelu Ave & Wikao St/Leilehua Road	**7.0**	-	**A**	**5.0**	-	**A**
Wikao NB Approach	12.0	0.440	B	5.0	0.170	A
Wikao SB Approach	5.0	0.020	A	6.0	0.100	A
Kahelu WB Approach	6.0, 6.0	0.21, 0.24	A, A	5.0, 6.0	0.26, 0.29	A, A
Kahelu EB Approach	6.0, 6.0	0.36, 0.41	A, A	5.0, 5.0	0.24, 0.27	A, A

Source: SSFM

Both a signalized intersection and roundabout configuration at Leilehua Road and the H-2 Freeway NB Off-Ramp intersection would operate effectively, with the signalized intersection operating at LOS B during both the AM and PM peak hours, and the roundabout operating at LOS A during both peak hours. ROW concerns were not a factor at either intersection. While both mitgation measures were effective in addressing traffic delay, the roundabout is the preferred configuration due to the following benefits that could be provided:

- Reduction in conflict points compared to a standard intersection, resulting in fewer and less severe crashes;
- Less vehicles idling while stopped when compared to a standard intersection, resulting in less vehicle pollution; and
- Minimal maintenance required for a roundabout in comparison to a traffic signal, which requires electricity and can result in higher overall maintenance costs.

Figure 24 shows a conceptual design of a preferred roundabout configuration that was used for analysis of the Future With Project scenarios. The installation of a roundabout was assumed to be installed by the end of Phase B (2027) in the analysis. As this is for analysis purposes only, no pedestrian or bike facilities are shown.

Figure 24: Preferred Roundabout Configurations at Leilehua Rd and H-2 NB Off-Ramp and Leilehua Rd and Wikao St Intersections

Source: SSFM

Future 2030 With Project LOS – Phase C

Future 2030 With Project intersection and movement LOS and delay was determined for the AM and PM peak hours using Synchro 10 traffic analysis software and a HCM6 Roundabout Analysis spreadsheet, which is shown in Table 29. The cycle lengths at Kamehameha Highway and Higgins Road, as well as at Kamehameha Highway and Leilehua Road, were based off the field-observed base conditions, while splits were optimized to account for additional traffic. The preferred roundabout alternative proposed for the Future 2027 With Project scenario was assumed to be implemented by this phase, thus the following results are based off this configuration. Table 30 shows the alternative for signalized intersections at the H-2 Freeway Off-Ramp and Wikao Street intersections.

Table 29: Future 2030 With Project LOS (with Future 2027 Roundabout Mitigation)

Intersection	AM			PM		
	Delay (sec/veh)	v/c	LOS	Delay (sec/veh)	v/c	LOS
Kamehameha Hwy & Higgins Rd	**17.9**	**-**	**B**	**11.4**	**-**	**B**
Kamehameha NB Left	34.2	0.850	C	33.0	0.76	C
Kamehameha NB Through	8.8	0.400	A	6.7	0.38	A
Kamehameha SB Left	43.3	0.640	D	37.9	0.45	D
Kamehameha SB Through	17.0	0.560	B	10.2	0.54	B
Higgins WB Left-Through	26.7	0.180	C	23.0	0.28	C
Higgins EB Left-Through	29.4	0.470	C	23.1	0.29	C
Kamehameha Hwy & Leilehua Rd	**18.4**	**-**	**B**	**20.1**	**-**	**C**
Kamehameha NB Through	15.9	0.420	B	21.6	0.48	C
Kamehameha SB Left	37.6	0.900	D	37.7	0.92	D
Kamehameha SB Through	1.8	0.210	A	3.2	0.31	A
Kahelu WB Left	48.3	0.760	D	41.9	0.78	D
Leilehua Rd & Waiawa Park + Ride/Army National Guard Driveway	**Unsignalized (TWSC)**			**Unsignalized (TWSC)**		
Army National Guard Driveway NB Left-Through-Right	24.5	0.012	C	17.3	0.03	C
Waiawa Park + Ride SB Left-Through	N/A	N/A	N/A	28.6	0.03	D
Waiawa Park + Ride SB Right	12.3	0.002	B	11.1	0.01	B
Kahelu WB Left	9.2	0.001	A	9.2	0.00	A
Kahelu EB Left	8.7	0.008	A	8.3	0.01	A
Leilehua Rd & H-2 SB On-Ramp	**Unsignalized**			**Unsignalized**		
Kahelu WB Left	13.3	0.520	B	16.4	0.66	C
Leilehua Rd & H-2 NB Off-Ramp (roundabout mitgation)	4.0	-	A	4.0	-	A
Leilehua WB Through	1.5, 1.8	0.33, 0.37	A, A	6.0, 7.0	0.34, 0.39	A, A
Leilehua EB Through	5.0	0.30	A	4.0	0.21	A
H-2 NB Left	7.0	0.27	A	5.0	0.13	A
H-2 NB Right	0.0	0.00	A	0.0	0.00	A
Kahelu Ave & Wikao St/Leilehua Road (roundabout mitigation)	7.0	-	A	5.0	-	A
Wikao NB Approach	14.0	0.48	B	5.0	0.17	A
Wikao SB Approach	5.0	0.02	A	7.0	0.11	A
Kahelu WB Approach	6.0, 6.0	0.23, 0.26	A, A	6.0, 6.0	0.28, 0.32	A, A
Kahelu EB Approach	0.39, 0.44	6.0, 7.0	A, A	5.0, 5.0	0.24, 0.27	
Kahelu Ave & Akamainui St	**Unsignalized (TWSC)**			**Unsignalized (TWSC)**		
Akamainui NB Left-Through	334.0	1.31	F	42.2	0.57	E
Akamainui NB Right	12.4	0.05	B	10.0	0.04	B
Akamainui SB Left-Through-Right	10.0	0.01	B	10.9	0.03	B
Kahelu WB Left	10.3	0.01	B	8.4	0.01	A
Kahelu EB Left-Through	9.1	0.14	A	9.3	0.04	A
Kahelu Ave & Pali St	**Unsignalized (TWSC)**			**Unsignalized (TWSC)**		
Palii NB Left-Through-Right	13.2	0.13	B	17.0	0.16	C
Palii SB Left-Through-Right	N/A	N/A	N/A	N/A	N/A	N/A
Kahelu WB Left	9.1	0.01	A	8.1	0.02	A
Kahelu EB Left-Through	8.3	0.06	A	8.7	0.04	A

Source: SSFM

Table 30: Future 2030 With Project LOS (Traffic Signal Mitigation)

Traffic Signal - Permissive Phasing	AM			PM		
	Delay (sec/veh)	v/c	LOS	Delay (sec/veh)	v/c	LOS
Leilehua Rd & H-2 NB Off-Ramp	**15.1**	**-**	**B**	**13.4**	**-**	**B**
Leilehua WB Through	15.5	0.62	B	14.3	0.64	B
Leilehua EB Through	17.3	0.61	B	12.2	0.39	B
H-2 NB Left	10.1	0.31	B	10.3	0.19	B
Traffic Signal - Permissive Phasing	**AM**			**PM**		
	Delay (sec/veh)	**v/c**	**LOS**	**Delay (sec/veh)**	**v/c**	**LOS**
Kahelu Ave & Wikao St/Leilehua Road	**20.2**	**-**	**C**	**15.7**	**-**	**B**
Wikao NB Left-Through	15.7	0.48	B	11.7	0.25	B
Wikao NB Right	10.3	0.01	B	9.8	0.03	A
Wikao SB Left-Through-Right	10.4	0.03	B	10.4	0.11	B
Kahelu WB Left	21.1	0.08	C	16.5	0.05	B
Kahelu WB Through-Right	10.3	0.33	B	13.0	0.50	B
Kahelu EB Left	17.9	0.13	B	20.2	0.06	C
Kahelu EB Through-Right	26.0	0.77	C	19.3	0.51	B

Source: SSFM

Based off the analysis, the following intersections and movements resulted in an appropriate LOS D or better during AM and PM peak hours:

- Kamehameha Highway at Higgins Road
- Kamehameha Highway at Leilehua Road
- Leilehua Road at the H-2 Freeway SB On-Ramp
- Kahelu Avenue and Palii Street

The SB left turn at the Leilehua Road and Wahiawa Park and Ride Facility/Army National Guard Driveway intersection operated at LOS E (v/c of 0.05) during the PM peak hour. Although the traffic analysis shows this movement operating at an unacceptable LOS, mitigation was not deemed to be warranted for this intersection as a whole, as the volume for the SB left turn lane was minor and all other movements at the intersection operated at LOS D or better.

With the proposed roundabout mitigation, the intersection at Leilehua Road and the H-2 Freeway NB Off-Ramp resulted in LOS A and the intersection at Leilehua Road and Wikao Street resulted in LOS B or better. With the signalized intersection, both intersections resulted in LOS C or better.

The NB left turn at Kahelu Avenue and Akamainui Street operated at LOS F (v.c of 1.03) during the AM peak hour, and LOS E (v/c of 0.54) during the PM peak hour. Although the traffic analysis shows this movement operating at an unacceptable LOS, mitigation was not deemed to be warranted for this intersection as a whole. All other movements at this intersection operated at LOS B or better during both peak hours, and the NB left turn volumes were relatively minor during the peak hours. Additionally, vehicles making this turn have an acceleration lane provided before merging onto Kahelu Avenue, which analysis from Synchro 10 is unable to account for. SimTraffic was also used to analyze conditions at this intersection, which shows delays more comparative to what was observed in the field; the results are shown in Table 31.

Table 31: Future 2030 With Project LOS at Kahelu Avenue and Akamainui Street (SimTraffic)

Intersection	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Kahelu Ave & Akamainui St	**Unsignalized (TWSC)**		**Unsignalized (TWSC)**	
Akamainui NB Left-Through	11.4	B	7.1	A
Akamainui NB Right	3.6	A	2.9	A
Akamainui SB Left-Through-Right	3.1	A	4.4	A
Kahelu WB Left	4.7	A	1.9	A
Kahelu EB Left-Through	1.5	A	0.8	A

Source: SSFM

Future 2033 With Project LOS – Phase D

Future 2033 With Project Intersection and movement LOS and delay was determined for the AM and PM peak hours using Synchro 10 traffic analysis software and a HCM6 Roundabout Analysis spreadsheet, which is shown in Table 32. Like the Future 2030 With Project scenario, it was assumed that the roundabout mitigations discussed in the Future 2027 With Project analysis would be implemented by this phase, and as such the results are based off this preferred configuration. Table 33 shows the alternative for signalized intersections at H-2 Freeway Off-Ramp and Wikao Street intersections.

Based on the analysis, the Future 2033 With Project LOS produced similar results to the Future 2030 With Project LOS. The following intersections and movements resulted in an appropriate LOS D or better during AM and PM peak hours:

- Kamehameha Highway at Higgins Road
- Kamehameha Highway at Leilehua Road
- Leilehua Road at the H-2 Freeway SB On-Ramp
- Kahelu Avenue and Palii Street

The Leilehua Road at Wahiawa Park and Ride Facility/Army National Guard Driveway also operated at LOS E similar to the Future 2030 With Project analysis, and thus produced the same results of no mitigation being warranted due to minor volume for the SB left turn lane and all other movements operating at LOS D or better.

The Leilehua Road at the H-2 Freeway NB Off-Ramp and Leilehua Road at Wikao Street intersections also resulted in the same LOS with both the roundabout and signalized intersection options as noted in the Future 2030 With Project analysis.

The NB left turn at Kahelu Avenue and Akamainui Street operated at LOS F (v/c of 1.29) during the AM peak hour, and LOS E (v/c of 0.62) during the PM peak hour. Similar to the Future 2030

With Project analysis, mitigation was not deemed to be warranted at this phase. The results from the SimTraffic Analysis are shown in Table 34.

Table 32: Future 2033 With Project LOS

Intersection	AM			PM		
	Delay (sec/veh)	v/c	LOS	Delay (sec/veh)	v/c	LOS
Kamehameha Hwy & Higgins Rd	**18.2**	**-**	**B**	**11.5**	**-**	**B**
Kamehameha NB Left	35.8	0.850	D	33.0	0.76	C
Kamehameha NB Through	8.9	0.420	A	6.8	0.40	A
Kamehameha SB Left	44.2	0.650	D	37.9	0.45	D
Kamehameha SB Through	17.4	0.580	B	10.5	0.57	B
Higgins WB Left-Through	27.3	0.180	C	23.0	0.28	C
Higgins EB Left-Through	30.0	0.470	C	23.1	0.29	C
Kamehameha Hwy & Leilehua Rd	**19.0**	**-**	**B**	**21.0**	**-**	**C**
Kamehameha NB Through	17.0	0.450	B	23.0	0.52	C
Kamehameha SB Left	38.2	0.910	D	39.3	0.92	D
Kamehameha SB Through	1.9	0.220	A	3.3	0.32	A
Kahelu WB Left	47.9	0.760	D	41.8	0.79	D
Leilehua Rd & Waiawa Park + Ride/Army National Guard Driveway	**Unsignalized (TWSC)**			**Unsignalized (TWSC)**		
Army National Guard Driveway NB Left-Through-Right	26.0	0.013	D	18.0	0.04	C
Waiawa Park + Ride SB Left-Through	N/A	N/A	N/A	30.6	0.03	D
Waiawa Park + Ride SB Right	12.5	0.022	B	11.3	0.01	B
Kahelu WB Left	9.3	0.001	A	9.3	0.00	A
Kahelu EB Left	8.8	0.008	A	8.3	0.01	A
Leilehua Rd & H-2 SB On-Ramp	**Unsignalized**			**Unsignalized**		
Kahelu WB Left	14.1	0.560	B	19.5	0.74	C
Leilehua Rd & H-2 NB Off-Ramp (roundabout mitgation)	4.0	-	A	5.0	-	A
Leilehua WB Through	7.0, 7.0	0.35, 0.39	A, A	7.0, 7.0	0.37, 0.42	A, A
Leilehua EB Through	5.0	0.32	A	4.0	0.22	A
H-2 NB Left	7.0	0.29	A	5.0	0.14	A
H-2 NB Right	0.0	0.00	A	0.0	0.00	A
Kahelu Ave & Wikao St/Leilehua Road (roundabout mitigation)	8.0	-	A	6.0	-	A
Wikao NB Approach	15.0	0.51	C	5.0	0.17	A
Wikao SB Approach	5.0	0.02	A	7.0	0.11	A
Kahelu WB Approach	6.0, 6.0	0.24, 0.27	A, A	6.0, 6.0	0.31, 0.35	A, A
Kahelu EB Approach	7.0, 7.0	0.42, 0.47	A, A	5.0, 5.0	0.25, 0.28	A, A
Kahelu Ave & Akamainui St	**Unsignalized (TWSC)**			**Unsignalized (TWSC)**		
Akamainui NB Left-Through	514.7	1.67	F	54.8	0.65	F
Akamainui NB Right	13.1	0.06	B	10.1	0.04	B
Akamainui SB Left-Through-Right	10.1	0.01	B	11.3	0.03	B
Kahelu WB Left	10.8	0.01	B	8.4	0.02	A
Kahelu EB Left-Through	9.2	0.15	A	9.7	0.04	A
Kahelu Ave & Pali St	**Unsignalized (TWSC)**			**Unsignalized (TWSC)**		
Palii NB Left-Through-Right	14.1	0.15	B	18.5	0.18	C
Palii SB Left-Through-Right	N/A	N/A	N/A	N/A	N/A	N/A
Kahelu WB Left	9.5	0.01	A	8.2	0.03	A
Kahelu EB Left-Through	8.4	0.06	A	9.0	0.05	A

Source: SSFM

Table 33: Future 2033 With Project LOS (Traffic Signal Mitigation)

Traffic Signal - Permissive Phasing	AM			PM		
	Delay (sec/veh)	v/c	LOS	Delay (sec/veh)	v/c	LOS
Leilehua Rd & H-2 NB Off-Ramp	**22.9**	**-**	**C**	**13.1**	**-**	**B**
Leilehua WB Through	24.4	0.77	C	13.9	0.66	B
Leilehua EB Through	28.7	0.77	C	11.4	0.38	B
H-2 NB Left	8.3	0.27	A	11.1	0.21	B
Traffic Signal - Permissive Phasing	**AM**			**PM**		
	Delay (sec/veh)	**v/c**	**LOS**	**Delay (sec/veh)**	**v/c**	**LOS**
Kahelu Ave & Wikao St/Leilehua Road	**21.7**	-	**C**	**16.1**	-	**B**
Wikao NB Left-Through	19.3	0.51	B	11.7	0.25	B
Wikao NB Right	12.8	0.01	B	9.8	0.03	A
Wikao SB Left-Through-Right	12.9	0.03	B	10.4	0.11	B
Kahelu WB Left	24.1	0.09	C	16.6	0.05	B
Kahelu WB Through-Right	10.4	0.31	B	13.9	0.55	B
Kahelu EB Left	19.9	0.13	B	21.3	0.06	C
Kahelu EB Through-Right	27.4	0.74	C	19.8	0.54	B

Source: SSFM

Table 34: Future 2033 With Project LOS at Kahelu Avenue and Akamainui Street (SimTraffic)

Traffic Signal - Permissive Phasing	AM			PM		
	Delay (sec/veh)	v/c	LOS	Delay (sec/veh)	v/c	LOS
Leilehua Rd & H-2 NB Off-Ramp	**22.9**	**-**	**C**	**13.1**	**-**	**B**
Leilehua WB Through	24.4	0.77	C	13.9	0.66	B
Leilehua EB Through	28.7	0.77	C	11.4	0.38	B
H-2 NB Left	8.3	0.27	A	11.1	0.21	B
Traffic Signal - Permissive Phasing	**AM**			**PM**		
	Delay (sec/veh)	**v/c**	**LOS**	**Delay (sec/veh)**	**v/c**	**LOS**
Kahelu Ave & Wikao St/Leilehua Road	**21.7**	-	**C**	**16.1**	-	**B**
Wikao NB Left-Through	19.3	0.51	B	11.7	0.25	B
Wikao NB Right	12.8	0.01	B	9.8	0.03	A
Wikao SB Left-Through-Right	12.9	0.03	B	10.4	0.11	B
Kahelu WB Left	24.1	0.09	C	16.6	0.05	B
Kahelu WB Through-Right	10.4	0.31	B	13.9	0.55	B
Kahelu EB Left	19.9	0.13	B	21.3	0.06	C
Kahelu EB Through-Right	27.4	0.74	C	19.8	0.54	B

Source: SSFM

Future 2036 With Project LOS – Phase E

Future 2036 With Project Intersection and movement LOS and delay was determined for the AM and PM peak hours using Synchro 10 traffic analysis software and a HCM6 Roundabout Analysis spreadsheet, which is shown in Table 35. Like the previous Future With Project analysis, it was assumed that the roundabout mitigations discussed in the Future 2027 With Project analysis would be implemented by this phase, and as such the results are based off this preferred configuration. Table 36 shows the alternative for signalized intersections at H-2 Freeway Off-Ramp and Wikao Street intersections.

The Future 2036 With Project analysis showed the same resulting LOS for the study intersections that were also discussed in the Future 2030 and 2033 With Project analysis. The

recommendations for all intersections remain the same for the Future 2036 With Project scenario as to those previously noted in the 2030 and 2033 scenarios.

Future 2038 With Project LOS – Phase F

Future 2038 With Project Intersection and movement LOS and delay was determined for the AM and PM peak hours using Synchro 10 traffic analysis software and a HCM6 Roundabout Analysis spreadsheet, which is shown in Table 37. Like the previous Future With Project analysis, it was assumed that the roundabout mitigations discussed in the Future 2027 With Project analysis would be implemented by this phase, and as such the results are based off this preferred configuration. Table 38 shows the alternative for signalized intersections at H-2 Freeway Off-Ramp and Wikao Street intersections.

The Future 2038 With Project analysis showed the same resulting LOS for the study intersections that were shown in the Future 2030, 2033, and 2036 With Project analysis. The recommendations for all intersections remain the same for the Future 2038 With Project scenario as to those previously noted in the 2030, 2033, and 2036 scenarios.

Table 35: Future 2036 With Project LOS

Intersection	AM			PM		
	Delay (sec/veh)	v/c	LOS	Delay (sec/veh)	v/c	LOS
Kamehameha Hwy & Higgins Rd	**18.6**	**-**	**B**	**11.6**	**-**	**B**
Kamehameha NB Left	37.9	0.86	D	33.0	0.76	C
Kamehameha NB Through	9.1	0.44	A	7.0	0.42	A
Kamehameha SB Left	45.1	0.65	D	38.0	0.45	D
Kamehameha SB Through	17.8	0.60	B	10.8	0.60	B
Higgins WB Left-Through	27.8	0.18	C	23.0	0.28	C
Higgins EB Left-Through	30.6	0.48	C	23.1	0.29	C
Kamehameha Hwy & Leilehua Rd	**19.4**	**-**	**B**	**21.7**	**-**	**C**
Kamehameha NB Through	17.9	0.48	B	24.5	0.56	C
Kamehameha SB Left	38.7	0.91	D	40.0	0.93	D
Kamehameha SB Through	1.9	0.23	A	3.5	0.33	A
Kahelu WB Left	47.7	0.76	D	41.7	0.79	D
Leilehua Rd & Waiawa Park + Ride/Army National Guard Driveway	**Unsignalized (TWSC)**			**Unsignalized (TWSC)**		
Army National Guard Driveway NB Left-Through-Right	27.3	0.01	D	18.6	0.04	C
Waiawa Park + Ride SB Left-Through	N/A	N/A	N/A	32.4	0.03	D
Waiawa Park + Ride SB Right	12.6	0.00	B	11.5	0.01	B
Kahelu WB Left	9.4	0.00	A	9.4	0.00	A
Kahelu EB Left	8.8	0.01	A	8.4	0.01	A
Leilehua Rd & H-2 SB On-Ramp	**Unsignalized**			**Unsignalized**		
Kahelu WB Left	14.9	0.58	B	22.5	0.79	C
Leilehua Rd & H-2 NB Off-Ramp (roundabout mitgation)	**4.0**	**-**	**A**	**5.0**	**-**	**A**
Leilehua WB Through	7.0, 8.0	0.36, 0.40	A, A	7.0, 7.0	0.39, 0.44	A, A
Leilehua EB Through	6.0	0.32	A	5.0	0.22	A
H-2 NB Left	8.0	0.31	A	5.0	0.15	A
H-2 NB Right	0.0	0.00	A	0.0	0.00	A
Kahelu Ave & Wikao St/Leilehua Road (roundabout mitigation)	**8.0**	**-**	**A**	**6.0**	**-**	**A**
Wikao NB Approach	16.0	0.53	C	5.0	0.17	A
Wikao SB Approach	6.0	0.02	A	7.0	0.12	A
Kahelu WB Approach	6.0, 6.0	0.25, 0.28	A, A	6.0, 7.0	0.33, 0.37	A, A
Kahelu EB Approach	7.0, 8.0	0.43, 0.49	A, A	5.0, 5.0	0.25, 0.29	A, A
Kahelu Ave & Akamainui St	**Unsignalized (TWSC)**			**Unsignalized (TWSC)**		
Akamainui NB Left-Through	692.0	2.01	F	63.9	0.70	F
Akamainui NB Right	13.5	0.06	B	10.1	0.04	B
Akamainui SB Left-Through-Right	10.2	0.01	B	11.6	0.03	B
Kahelu WB Left	11.1	0.01	B	8.5	0.02	A
Kahelu EB Left-Through	9.3	0.15	A	9.9	0.05	A
Kahelu Ave & Pali St	**Unsignalized (TWSC)**			**Unsignalized (TWSC)**		
Palii NB Left-Through-Right	14.7	0.17	B	19.5	0.19	C
Palii SB Left-Through-Right	N/A	N/A	N/A	N/A	N/A	N/A
Kahelu WB Left	9.7	0.02	A	8.2	0.03	A
Kahelu EB Left-Through	8.5	0.06	A	9.2	0.05	A

Source: SSFM

Table 36: Future 2036 With Project LOS (Traffic Signal Mitigation)

Traffic Signal - Permissive Phasing	AM			PM		
	Delay (sec/veh)	v/c	LOS	Delay (sec/veh)	v/c	LOS
Leilehua Rd & H-2 NB Off-Ramp	**19.3**	**-**	**B**	**13.5**	**-**	**B**
Leilehua WB Through	20.2	0.72	C	14.4	0.68	B
Leilehua EB Through	23.6	0.72	C	11.4	0.38	B
H-2 NB Left	9.3	0.31	A	11.2	0.22	B
Traffic Signal - Permissive Phasing	**AM**			**PM**		
	Delay (sec/veh)	**v/c**	**LOS**	**Delay (sec/veh)**	**v/c**	**LOS**
Kahelu Ave & Wikao St/Leilehua Road	**21.9**	-	**C**	**15.5**	-	**B**
Wikao NB Left-Through	18.1	0.51	B	12.4	0.27	B
Wikao NB Right	11.9	0.01	B	10.5	0.04	B
Wikao SB Left-Through-Right	12.0	0.03	B	11.1	0.12	B
Kahelu WB Left	24.0	0.11	C	15.7	0.05	B
Kahelu WB Through-Right	10.1	0.33	B	13.2	0.55	B
Kahelu EB Left	18.9	0.13	B	20.9	0.06	C
Kahelu EB Through-Right	28.0	0.33	C	19.1	0.53	B

Source: SSFM

Table 37: Future 2038 With Project LOS

Intersection	AM			PM		
	Delay (sec/veh)	v/c	LOS	Delay (sec/veh)	v/c	LOS
Kamehameha Hwy & Higgins Rd	**17.2**	**-**	**B**	**11.7**	**-**	**B**
Kamehameha NB Left	33.9	0.81	C	33.0	0.76	C
Kamehameha NB Through	8.6	0.44	A	7.1	0.43	A
Kamehameha SB Left	38.7	0.50	D	38.0	0.45	D
Kamehameha SB Through	17.0	0.60	B	11.1	0.61	B
Higgins WB Left-Through	26.9	0.17	C	23.0	0.28	C
Higgins EB Left-Through	29.5	0.45	C	23.1	0.29	C
Kamehameha Hwy & Leilehua Rd	**18.2**	**-**	**B**	**22.2**	**-**	**C**
Kamehameha NB Through	17.7	0.49	B	25.7	0.60	C
Kamehameha SB Left	35.6	0.89	D	40.6	0.93	D
Kamehameha SB Through	1.7	0.23	A	3.6	0.34	A
Kahelu WB Left	41.9	0.64	D	41.6	0.80	D
Leilehua Rd & Waiawa Park + Ride/Army National Guard Drivewa	**Unsignalized (TWSC)**			**Unsignalized (TWSC)**		
Army National Guard Driveway NB Left-Through-Right	28.4	0.02	D	19.1	0.04	C
Waiawa Park + Ride SB Left-Through	N/A	N/A	N/A	33.9	0.04	D
Waiawa Park + Ride SB Right	12.8	0.02	B	11.6	0.01	B
Kahelu WB Left	9.5	0.00	A	9.5	0.00	A
Kahelu EB Left	8.9	0.01	A	8.4	0.01	A
Leilehua Rd & H-2 SB On-Ramp	**Unsignalized**			**Unsignalized**		
Kahelu WB Left	15.7	0.61	C	26.1	0.83	D
Leilehua Rd & H-2 NB Off-Ramp (roundabout mitgation)	5.0	-	A	5.0	-	A
Leilehua WB Through	7.0, 8.0	0.37, 0.41	A, A	7.0, 8.0	0.41, 0.46	A, A
Leilehua EB Through	6.0	0.33	A	5.0	0.22	A
H-2 NB Left	8.0	0.32	A	5.0	0.15	A
H-2 NB Right	0.0	0.00	A	0.0	0.00	A
Kahelu Ave & Wikao St/Leilehua Road (roundabout mitigation)	9.0	-	A	6.0	-	A
Wikao NB Approach	18.0	0.55	C	5.0	0.18	A
Wikao SB Approach	6.0	0.02	A	8.0	0.12	A
Kahelu WB Approach	6.0, 6.0	0.26, 0.29	A, A	6.0, 7.0	0.34, 0.39	A, A
Kahelu EB Approach	7.0, 8.0	0.45, 0.51	A, A	5.0, 5.0	0.26, 0.29	A, A
Kahelu Ave & Akamainui St	**Unsignalized (TWSC)**			**Unsignalized (TWSC)**		
Akamainui NB Left-Through	923.5	2.45	F	75.2	0.75	F
Akamainui NB Right	14.0	0.07	B	10.2	0.04	B
Akamainui SB Left-Through-Right	10.3	0.01	B	11.9	0.04	B
Kahelu WB Left	11.5	0.01	B	8.5	0.02	A
Kahelu EB Left-Through	9.4	0.15	A	10.1	0.05	B
Kahelu Ave & Pali St	**Unsignalized (TWSC)**			**Unsignalized (TWSC)**		
Palii NB Left-Through-Right	15.5	0.19	C	20.5	0.20	C
Palii SB Left-Through-Right	N/A	N/A	N/A	N/A	N/A	N/A
Kahelu WB Left	9.9	0.02	A	8.3	0.03	A
Kahelu EB Left-Through	8.6	0.06	A	9.4	0.05	A

Source: SSFM

Table 38: Future 2038 With Project LOS (Traffic Signal Mitigation)

Traffic Signal - Permissive Phasing	AM			PM		
	Delay (sec/veh)	v/c	LOS	Delay (sec/veh)	v/c	LOS
Leilehua Rd & H-2 NB Off-Ramp	**24.4**	**-**	**C**	**12.8**	**-**	**B**
Leilehua WB Through	25.8	0.80	C	13.6	0.68	B
Leilehua EB Through	31.5	0.81	C	10.6	0.37	B
H-2 NB Left	8.5	0.29	A	12.1	0.24	B
Traffic Signal - Permissive Phasing	**AM**			**PM**		
	Delay (sec/veh)	**v/c**	**LOS**	**Delay (sec/veh)**	**v/c**	**LOS**
Kahelu Ave & Wikao St/Leilehua Road	**22.4**	**-**	**C**	**15.7**	**-**	**B**
Wikao NB Left-Through	20.5	0.53	C	12.4	0.27	B
Wikao NB Right	13.4	0.01	B	10.5	0.04	B
Wikao SB Left-Through-Right	13.6	0.03	B	11.1	0.12	B
Kahelu WB Left	25.4	0.11	C	15.8	0.05	B
Kahelu WB Through-Right	9.9	0.32	A	13.7	0.58	B
Kahelu EB Left	19.6	0.13	B	21.6	0.06	C
Kahelu EB Through-Right	28.3	0.77	C	19.2	0.53	B

Source: SSFM

H-2 Freeway Analysis and Impacts

A traffic study was previously completed for the *Hawai'i Technology Park Final Environmental Impact Statement* (Belt Collins & Associates, November 1985) that identified and analyzed future traffic operations for Phase 1 and Phase 2 of the MTP. Phase 1 first opened in January 1989 and Phase 2 was planned to be fully built out by 2001, however construction of the project was never initiated. The proposed traffic mitigation improvements for Phase 1 and "Full Development" (combination of Phase 1 and Phase 2) are shown in Figure 25.

Traffic mitigation improvements for Phase 1 included:

- The extension of Leilehua Golf Course Road to intersect the H-2 Freeway NB Off-Ramp to create a four-leg intersection; and
- Update the lane configuration at the H-2 Freeway NB Off-Ramp and Wikao Street to accommodate the updated intersection.

The traffic mitigation improvements for the full buildout included the following and those listed for Leilehua Road below:

- Kamehameha Highway at Leilehua Road intersection
- Add a second SB left turn from Kamehameha Highway onto Leilehua Road.
- Add a second receiving EB lane on Leilehua Road to accommodate the second SB left turn lane from Kamehameha Highway.
- Add a second WB left turn lane from Leilehua Road onto Kamehameha Highway.

Leilehua Road at the H-2 Freeway SB On-Ramp intersection:

- Reconfigure the WB approach at Leilehua Road and the H-2 Freeway SB On-Ramp to allow for two WB left turns.
- Widen the SB On-Ramp onto the H-2 Freeway to two lanes.

- When warranted, install a traffic signal.

Leilehua Road between the H-2 Freeway On-ramp and Off-ramp

- Reconfigure the existing bridge to be one-way in the WB direction.
- Construct a new bridge to allow for two EB through lanes.

Leilehua Road at the H-2 Freeway NB Off-ramp

- The intersection will remain a four-leg intersection, as proposed in the Phase 1 improvements.
- The widening of the H-2 Freeway NB Off-ramp to two-lanes.
- Update the lane configuration to allow for a left turn lane, a shared left-through lane, and two right turn lanes.
- When warranted, install a traffic signal.

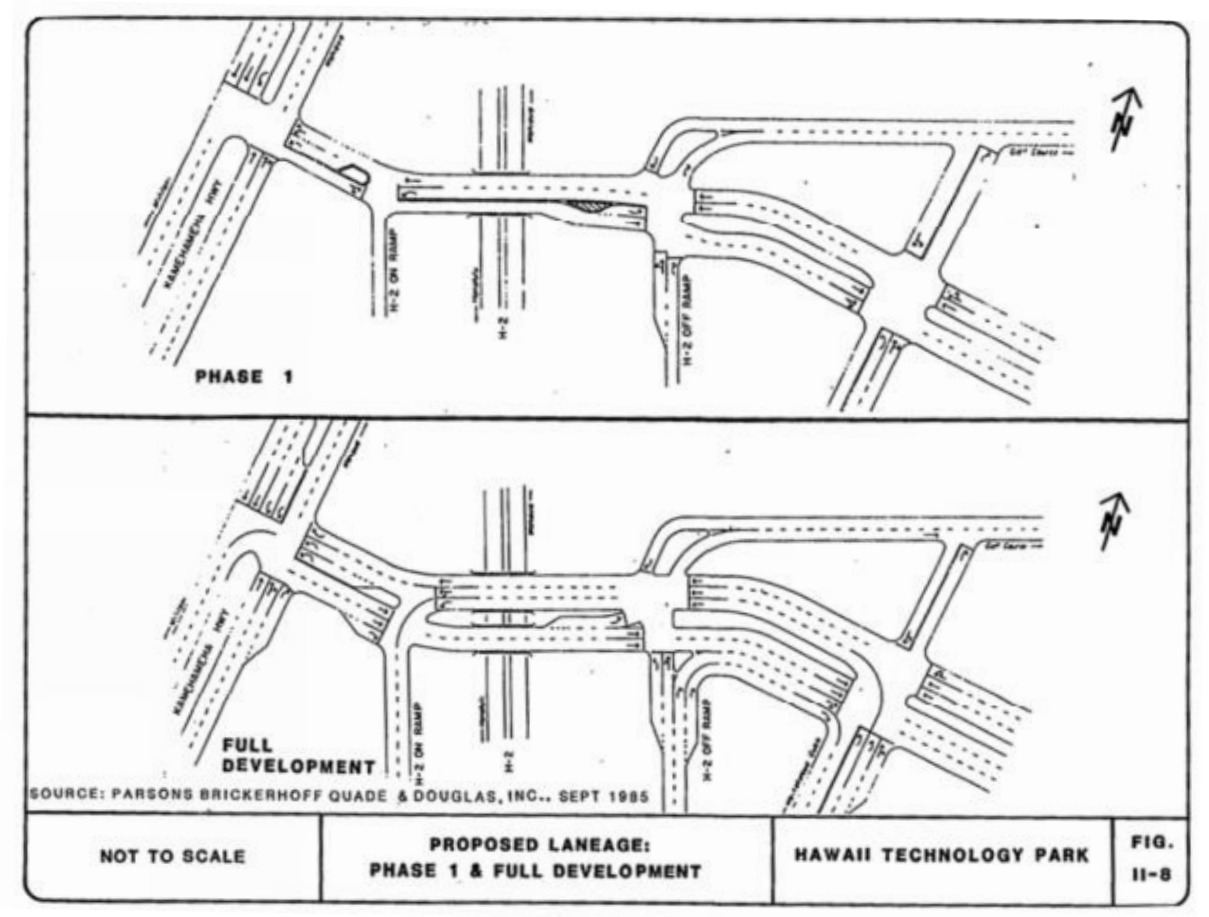
Leilehua Road at Wikao Street

- Provide two NB left turn lanes from Wikao Street onto Leilehua Road.
- Provide an additional right turn lane from EB Leilehua Road onto SB Wikao Street.
- When warranted, install a traffic signal.

Leilehua Road east of the H-2 Freeway Off-ramp

- Widen Leilehua Road to be six-lanes, three lanes in each direction.

Figure 25: 1985 Hawai'i Technology Park Final EIS Recommended Improvements



Source: Parsons Brickerhoff Quade & Douglas, Inc.

As of the publication date of this Draft EIS, neither of these proposed improvements had been made. The original Phase 1 traffic volume projections from the 1985 traffic study were much higher than the existing traffic volumes. In addition, the traffic analysis conducted for the MTP full buildout anticipated the peak hour LOS on Leilehua Golf Course Road and the H-2 Freeway On- and Off-ramps to be near capacity, which resulted in the recommendation to widen the H-2 Freeway south of the Leilehua Interchange from four to six lanes.

Methodology

Traffic conditions along the H-2 Freeway were analyzed using HCS 2010 – Freeways, which analyzes freeway operations based on the 2010 Highway Capacity Manual. Analysis was conducted for both the existing and Future 2038 With Project conditions. Volumes used for the existing analyses were based off tube counts collected on August 31, 2021. As discussed in previous sections, these volumes were then adjusted with a 7% COVID-19 differential factor,

and a 1.5% background growth rate over two years. Class volumes from the tube count reports were used to determine the heavy-vehicle adjustment factor. Similar analysis was done for the Future 2038 With Project conditions, with the future volumes accounting for both background growth and additional trips generated by the project.

Existing H-2 Freeway LOS Results
The H-2 Freeway at Leilehua Road currently operates efficiently during both the AM and PM peak hours, with LOS C or better for both directions (see Table 39).

Table 39: Existing (2021) LOS Along H-2 Freeway at Leilehua Road

Direction	AM Peak Hour		PM Peak Hour	
	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)
H-2 Northbound	B	15.3	B	16.2
H-2 Southbound	B	16.6	C	20.8

Source: SSFM

Future 2038 With Project H-2 Freeway LOS Results
The FRTC full buildout volumes on the H-2 Freeway On- and Off-ramps were added to the future analysis. With the additional background growth and project generated trips added by the FRTC along the H-2 Freeway, operations performed at appropriate LOS D or better in both directions for both the AM and PM peak hours (see Table 40).

Table 40: Future 2038 With Project LOS Along H-2 Freeway at Leilehua Road

Direction	AM Peak Hour		PM Peak Hour	
	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)
H-2 Northbound	C	24.5	C	23.0
H-2 Southbound	C	24.3	D	33.9

Source: SSFM

The proposed FRTC will generate a considerable increase in traffic along Leilehua Road/Kahelu Avenue, resulting in traffic delays at the intersections with the H-2 Freeway Off-ramp and with Wikao Street. Traffic operations and analysis shows that the TWSC configurations at these intersections will require mitigation by the end of Phase B of development. The H-2 Freeway NB Off-ramp intersection will have turning movements that operate at LOS E, and the Wikao Street intersection will have turning movements that operate at LOS F. These intersections passed the future peak hour traffic signal warrant. Permissive phasing traffic signals and multi-lane roundabouts were analyzed at each of these two intersections for future with project conditions. While both mitigation measures operated efficiently, roundabouts are the preferred alternative due to their benefits when it comes to multimodal safety, environmental emissions, and maintenance costs.

While some traffic movements at the intersection of Kahelu Avenue and Akamainui Street operated poorly in the Synchro analysis, field observations and SimTraffic analysis showed that this intersection operates at an acceptable LOS. Although the turning movements at this intersection are relatively minor, it is recommended that this intersection be monitored, and the installation of a roundabout or traffic signal be considered in the future if needed.
A PEQI analysis at the intersections along Kahelu Avenue showed scores lower than the recommended pedestrian target score for an avenue. It is recommended that pedestrian signage be added to these intersections in accordance with standards from the Honolulu Complete Streets Manual.

It is recommended that the proposed extension of Kahelu Avenue to the FRTC be designed to continue the sidewalks and bike lanes to minimize multimodal conflicts. In addition, Complete Streets improvements will be made where appropriate, which will be determined through consultation with the Department of Transportation Services (DTS). State and City agencies and officials, including TheBus, will be consulted should any future bus stops fronting the project site be proposed.

3.11 Socio-Economic Characteristics

As part of the Draft EIS, a *Socio-Economic Impact Assessment* was prepared by SMS to identify the social and economic impacts and mitigation measures in support of the proposed FRTC. A copy of this report is provided in Appendix H.

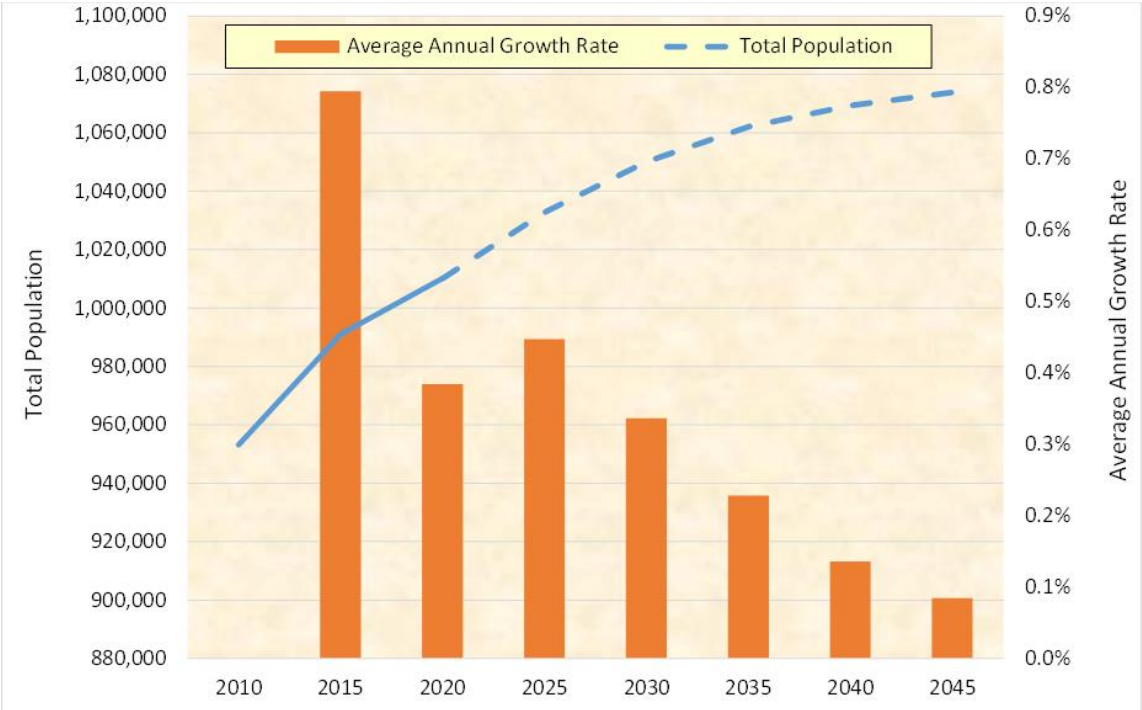
Population Context

Island of O'ahu

The City and County of Honolulu accounts for 68.8% of the State's total resident population, down from 69.7% just a few years ago. Figure 26 details the total resident population and annual growth rate for O'ahu over the last two decades.

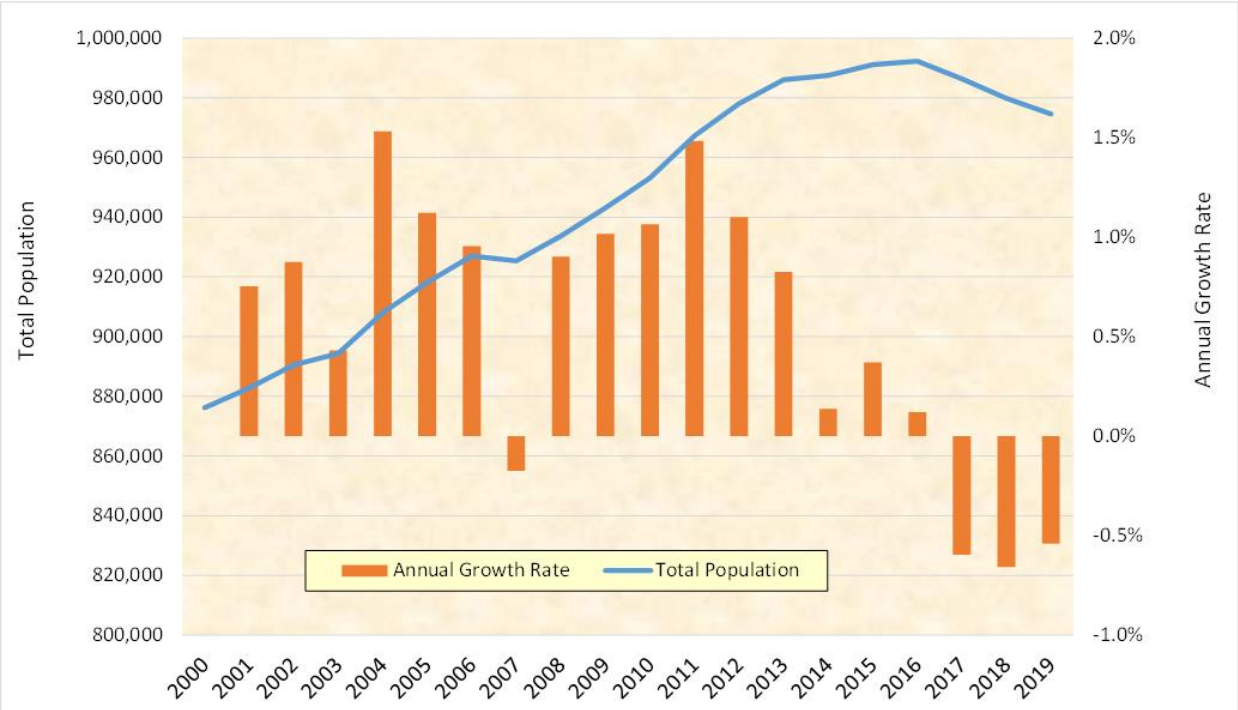
Based on the latest population projections, Honolulu's population is expected to continue climbing, but at a slower rate than the other counties. By 2045, the county is projected to be home to nearly 1.074 million residents. However, the average annual growth rate is predicted to slow from 0.4% between 2020 and 2030 to 0.1% by 2045 (see Figure 27). The projected population increases will result in increased demand for housing and public services across the Island.

Figure 26: Total Resident Population from 2000 – 2019 for O'ahu



Source: DBEDT Data Book Time Series

Figure 27: Projected Population Growth for 2000 – 2045 for O'ahu



Source: DBEDT Data Book Time Series and 2045 Projections

Impact Area
Central O'ahu is one of eight districts on the Island of O'ahu. This region is home to roughly 17.3% of the Island's population. For purposes of assessing the socio-economic impacts, this will be considered as the “impact area.”

The primary residential areas within the impact area include Pearl City, Mililani, Wahiawa, Ewa Beach, and Kapolei. Census figures for 2019 indicate that the Impact Area has a total resident population of 173,552. Of those residents, approximately one-quarter (40,381; 23.7%) are school-age children under the age of 17. In addition, roughly 15% of the impact area residents are age 65 and older (25,834).

The median age among Central O'ahu residents is 35 years, which is younger than the County median of 37.9 years. Residents are almost evenly divided between males (50.8%) and females (49.2%). More than three-quarters (77.5%) of these residents are of a single race, most often Asian (61.8%), White (22.1%), or Native Hawaiian or Other Pacific Islander (10.4%).

There are nearly 50,000 households (49,266) in the impact area, with an average household size of 3.36 persons. About eight out of ten households are families (78.5%; 38,659 households).

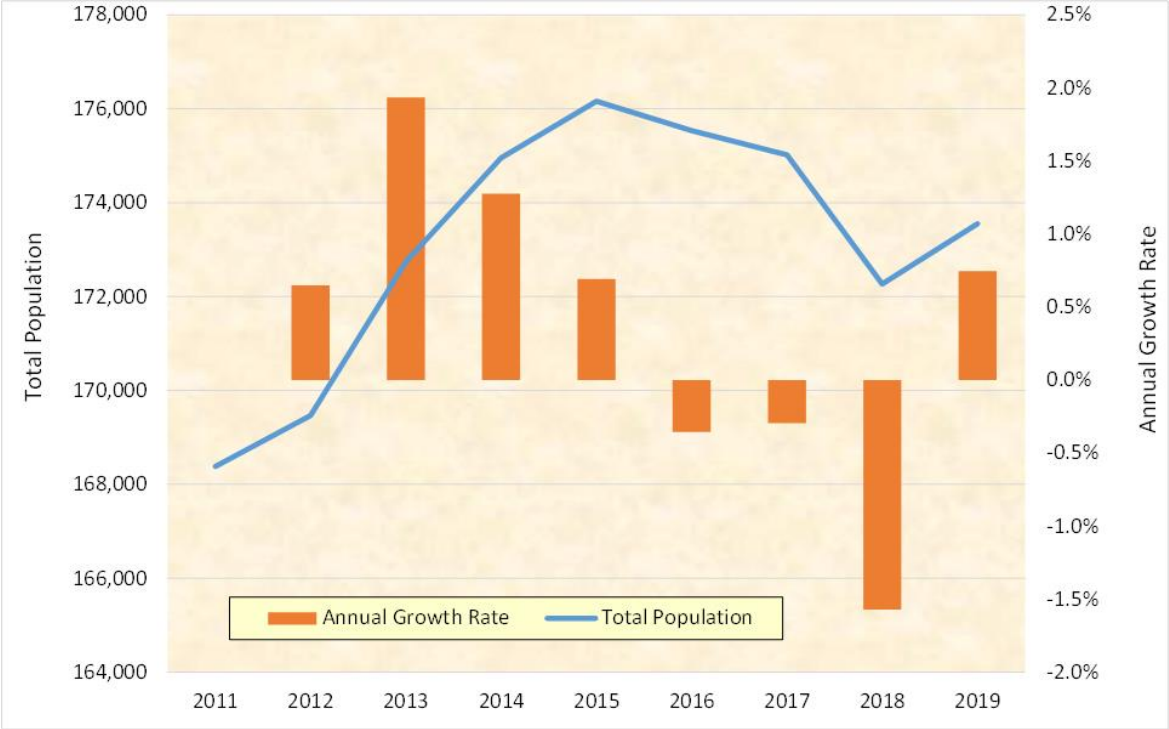
Except for slight declines in 2016 - 2018, the resident population of Central O'ahu has been steadily increasing over the past nine years (Figure 28). The total population growth for the seven-year period was 3.1%, for an average annual growth rate of 0.3%. If current population trends continue, this region could expect to have as many as 53,960 households by 2045.

Housing Context
Island of O‘ahu
The Island of O'ahu had 350,571 total housing units in 2019. This was up 2.7% from 2015, for an average annual growth rate of 0.7%. Nearly nine out of every ten housing units were occupied (89.2%; 312,795 units), leaving 34,253 units vacant. Over half of the occupied units were owner-occupied (56.2%; 175,751 units), and the remaining were rented.

Of the housing units in Honolulu, 56.2% were single-family dwellings (196,842 units). Thirty-eight percent of O'ahu's housing units were multi-family dwellings (37.6%; 131,914 units) and six percent were duplexes or quadplexes (21,112 units). The median age of housing units on the Island was 44 years.

Owner-occupied units had a median value of $678,200 in 2019. Over two-thirds of the owner-occupants on O'ahu have a mortgage for their home and pay a median monthly mortgage payment of $1,941. This monthly payment requires more than 30% of the monthly household income for almost four out of ten households (38.3%).

Figure 28: Total Population from 2011 – 2019 for the Central O'ahu "Impact Area"



Source: American Community Survey, 2011 – 2019, 5-year estimates

The median monthly housing payment for the occupants of the 130,665 rental units countywide was $1,745 in 2019. The high cost of housing is a significant burden for many renter households. Over half of renter households (56.8%) dedicated more than 30% of their household income to monthly shelter payments.

The 2019 homeowner vacancy rate was just 1%, and the rental vacancy rate was 5.2%. Just under half of all vacant units on the Island were for seasonal, recreational, or occasional use (45.2%). Three out of ten vacant units were classified as Other Vacant (31.3%). The remaining one-third of the 34,253 vacant units on O'ahu were for rent or sale to residents (11,441 units).

Impact Area

In 2019, there were a total of 51,788 housing units in the Central O'ahu district. The total housing units in this area decreased by 1.7% between 2015 and 2019. Of the 51,788 units, over 95% were occupied (95.1%; 49,226 units). Approximately six out of ten of the occupied units are owner-occupied dwellings (59.1%).

Most of the homes in the impact area are single-family dwellings (63.8%; 33,029). Slightly fewer than 10% are duplexes or quadplexes (9.5%; 4,922 units) and about 27% are multi-family housing units (26.6%; 13,766 units).

The median value for owner-occupied housing units in the impact area was $606,567 in 2019. Three-quarters of homeowners had a mortgage on their current residence (75.4%) and made a median monthly housing payment of $2,376. More than 36% of these homeowners with a mortgage are sheltered-burdened, paying more than 30% of their household income for housing each month (36.2%).

For more than 40% of Central O‘ahu's occupied rental housing units, the median monthly rent payment was $2,026 in 2019. An overwhelming majority of renter households (63.3%) were severely sheltered-burdened with a shelter-to-income ratio of greater than 30%.

Economic Context

Island of O‘ahu

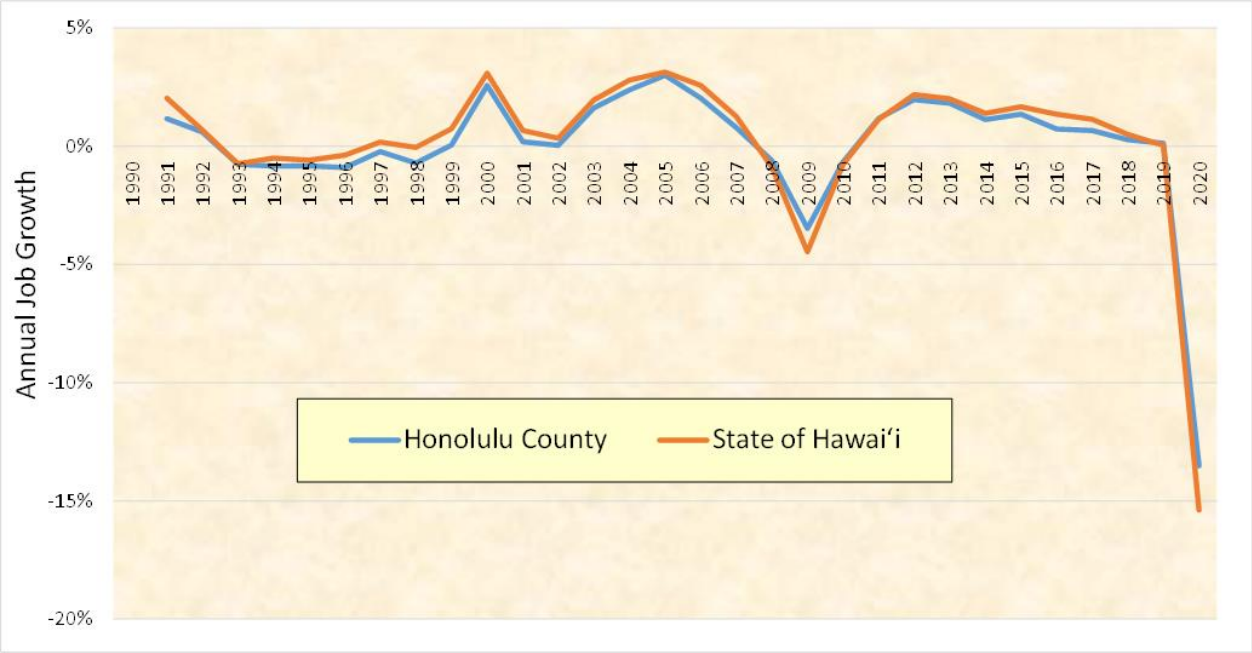
With the onset of the COVID-19 global pandemic in 2020, the economic outlook for all states has been dramatically altered from previous years. With an economy that relies heavily on tourism, the impact on Hawai'i's economy has been particularly significant. Due to quarantine mandates and travel restrictions, visitor arrivals by air to the Island of O'ahu fell by more than 75% in 2020.

Prior to the pandemic, the visitor industry had exhibited strong growth. Between 2011 and 2019, the average annual growth rate for visitor arrivals by air to O'ahu was 4.4%, with an overall increase of 40% for that period. While the visitor industry clearly suffered during 2020, the most recent economic indicators for the county have been encouraging. During the second quarter of 2021, visitor arrivals by air increased 4% and private building permits increased $563.2 million (+158.2%) in Honolulu.

As shown in Figure 29, Honolulu has had an upward trend in job growth since 2000, with two exceptions. First, growth fell during the Great Recession (2008 through 2010) before rebounding through 2019. Second, in 2020, the County experienced a 13.5 percent decrease in jobs due to the pandemic.

The 2019 median household income for Honolulu was $85,857. However, just over 8% of the population across the Island was classified as below the poverty level.

Figure 29: State of Hawai'i and C&C of Honolulu Job Growth from 1991 – 2020



Source: Hawai'i State Department of Labor & Industrial Relations

As of 2020, Government jobs account for the most significant proportion of non-agriculture wage and salary jobs in Honolulu (22.6%). Approximately 13% of jobs are in Health Care and Social Assistance (12.7%) and Professional and Business Services (12.8%). These are followed by jobs in Retail Trade (9.7%) and Food Services and Drinking Places (8.3%).

The third quarter of 2021 economic forecasts for the State of Hawai'i were encouraging. Visitor arrivals are expected to rebound to pre-COVID levels by 2024. Visitor expenditures are projected to return to pre-COVID levels in 2023. Forecasts suggest that the civilian unemployment rate will go down to 4.7% and there will be an average annual increase in the total population of 0.15% over the next five years.

For the second quarter of 2021, the unemployment rate in Honolulu decreased 9.9 percentage points from 16.9% to 7.0%. In addition, Honolulu added 35,600 non-agricultural wage and salary jobs compared to the same quarter of 2020. The most significant increases were observed for Food Services and Drinking Places, which added 13,600 jobs (+50.7%), and Accommodation which added 5,400 jobs (+73.0%).

Impact Area

Economic indicators for the impact area are somewhat better than for the county as a whole. In 2019, the median household income among Central O'ahu residents was $86,276. This was

essentially equal to the median for households countywide ($85,857). However, the per capita income for the impact area was lower than the island overall.

Of the over 91,000 Central O'ahu residents in the labor force, approximately 80% were employed in 2019. Nearly 13% worked in the Arts, Entertainment, Recreation, Accommodation, and Food Services industry, while an additional 18% were in jobs related to Educational Services, Health Care, and Social Assistance. The Retail Trade and Public Administration industries accounted for 11% of employees living in the impact area, while an additional 10% were in Armed Forces.

Compared to the 8.3% of Honolulu residents that were below the poverty level, only 7.1% of households in the Central O'ahu region were impoverished in 2019.

Social Context

People living on the Island of O'ahu, particularly in the Central O'ahu region, tend to support development but express concern about the pace of growth in their communities and its effect on local infrastructure.

The residents of Central O'ahu are accustomed to development across the region. Wahiawā, already affected by the growth of nearby Mililani and the Koa Ridge development, is also the site of several new developments and a large new state park. During a December 2019 meeting of the Wahiawā-Whitmore Village Neighborhood Board, five new projects were presented for review, drawing intense and thoughtful questioning from area residents. Two were housing projects and one involved the conversion of an old warehouse into a state-funded think tank and experimental agricultural products center for aspiring entrepreneurs. Also presented were the $1.5 million state-funded design proposal to make improvements at the Wahiawa Freshwater State Recreation Area and the initial planning for a new 2,800-acre state park, the Helemano Wilderness Area.

Across O'ahu, there is strong support for Honolulu's emergency services personnel. This has been especially true considering the challenges faced by first responders during the pandemic. This is a crucial social difference between the proposed FRTC, and joint training centers proposed and constructed in other cities across the United States. For example, joint training facilities similar to the proposed FRTC met with community opposition in Atlanta and Chicago. While the opposition cited alternate uses for the funding and disagreements regarding the location, a significant element was the contentious relationship between the organizations and the community. Hawai'i is fortunate that such a combative relationship does not exist between its residents and members of the police, fire, and EMS departments.

Potential Impacts and Mitigation Measures

Social Impacts

Regional Social Impacts

The development of Central O'ahu has been a vital element of the City's development plans for decades. It has been incorporated into the area's community plans and communicated to local residents for many years. According to the most recent community plan, this project will be consistent with the regional growth pattern. Based on the proposed development plans for Central O'ahu it is anticipated that this region will undergo tremendous changes over the next 10 to 15 years.

Executive Interviews

Between January 15 and February 28, 2022, SMS conducted 30 executive interviews. The interviewees included 18 government officials and project stakeholders, and 12 community leaders and business owners/managers. A list of the potential interviewees was developed by the project team, community leaders, key government agency executives, and SMS. To ensure that interviewees were equally aware of the planned FRTC development prior to the interview, every interviewee was provided with a project summary that included maps of the design and location. The input provided by the interviewees is summarized below; detailed excerpts from the interviews are provided in the Socio-Economic Impact Assessment Report.

In general, the interviewees concurred that the most significant challenges faced by first responders include the need for additional personnel, compensation commensurate with the level of risk they encounter, and limited/aging facilities and equipment. While recruitment and retention issues were mentioned frequently, everyone interviewed concurred that inadequate training and operational facilities posed the biggest threat to first responders' ability to perform their jobs safely and adequately.

The overall view of the FRTC by the interviewees was unanimously positive. Many interviewees cited the FRTC's ability to foster collaboration among agencies, provide much-needed training space in a centralized location space, and provide the community with the quality of service that it demands and deserves as the primary reasons for their positive view of the project. When asked for specific aspects of the project plan, they regarded as important, interviews often noted that the FRTC would be a beneficial use of the land, could provide numerous jobs during the construction phase and after the development is completed, and would be more efficient and cost-effective than the facilities first responder agencies currently use. A secure facility, located well outside the flood zones, from which all agencies could maintain critical functions in the event of a disaster was noted as another important aspect of the project.

The primary issue mentioned was the need for funding for each of the agencies to develop their own space within the campus. Because each agency involved in the project has its own funding process, timeline, and priorities, several people expressed concerns about how long it would take for all the agencies to completely transition to the FRTC campus. The interviewees were

also asked to comment on any anticipated concerns from residents in the areas located near the FRTC development site. The most concerning elements of the project are the impacts to traffic and noise levels. While traffic is always a concern with any development on O‘ahu, the project was not expected to produce a substantial increase in traffic, so most interviewees did not perceive this as a major problem. Interviewees expected that local residents might have some concern about the noise generated by the training activities and heavy equipment and/or vehicles moving in and around the site.

Discussions with the interviewees also included ways to best address and alleviate any community concerns that may arise. The single most important factor in mitigating community concerns was clear and consistent communication. All interviewees emphasized the need for complete transparency about the project delivered by a spokesperson regarded as a trustworthy community advocate. Maintaining a consistent level of communication throughout the entire development process will help alleviate current concerns, as well as those that may present as the project moves through the various development phases. Conducting training sessions that involve high noise levels outside of evening hours was strongly recommended, as was outlining the multitude of benefits to both the first responders and the community that will result from development of the FRTC.

Economic Impacts

Cost estimates for the proposed project were provided by a local Hawai‘i firm that specializes in construction cost estimates and management in Hawai‘i. The estimates were generated in terms of current 2022 dollars. The *Socio-Economic Impact Assessment* and this Draft EIS will utilize cost estimate ranges as opposed to a fixed cost estimate as the estimates for the various phases of the project are fluid and subject to widely fluctuating commodity prices, global pandemic related supply chain disruptions, and the local bidding climate. Providing ranges is advantageous in that by providing lower and upper bounds for the estimates, it provides a better approximation of economic impacts by accounting for the fact that the project may include costs overruns or other increases that are unaccounted for by examining a fixed estimate. Table 41 shows the estimated cost range for Phase A of construction. For the purposes of the *Socio-Economic Impact Assessment*, only Phase A economic impacts were analyzed. The project start dates for the other phases are far in the future, thus the estimated costs for the future phases are purely speculative and are provided for informational purposes only.

Table 41: Phase A Estimated Cost Range

Phase	Time Frame	Lower Bound ($ millions, 2022 dollars)	Upper Bound ($ millions, 2022 dollars)
A	2023 – 2025	100	150

Two considerations were considered in the economic impact analysis. The first consideration is that public funding from state revenues will be used to finance Phase A construction costs rather than private investment. This is an important distinction to note as the purchases of goods and services from private development affect industries differently than public investment. Secondly, the analysis assumed that the costs for the project are distributed equally over the time frame estimated for Phase A. That assumption may or may not hold true; however, this assumption is incorporated so that a job deflation factor can be applied over the course of the project that accounts for the fact that the number of jobs created each year gets smaller.

To estimate the economic impact of the construction involved in the proposed project, SMS utilized the 2017 State of Hawai'i Inter-County Input-Output (I-O) Model produced by the State Department of Business, Economic Development, and Tourism (DBEDT). The State's model includes information on sales and the purchases of goods and of services among 62 industries in the City and County of Honolulu. The I-O model is a quantitative economic model that describes the interdependent relationship between different sections in an economy and can be used to examine how one sector can influence other sectors.

Table 42 shows the anticipated economic impact of construction and activities related to Phase A of the project. It is estimated that the proposed project would generate between $170.8 million and $256.2 million in additional economic impact in the City and County of Honolulu, create or support between 766 and 1,149 jobs, generate between $56.6 million and $84.9 million in earnings tied to those jobs, and produce between $10.3 million and $15.4 million in state tax revenues on O'ahu over the course of the estimated three-year timespan. All figures account for direct, indirect, and induced impacts arising from the initial project.

Table 42: Estimated Economic Impact of Phase A

	Estimated Total Output (Direct, Indirect and Induced)	Estimated Total Jobs (Direct, Indirect and Induced)	Estimated Total Earnings (Direct, Indirect and Induced)	Estimated Total State Tax (Direct, Indirect and Induced)
Lower Bound (~$100 million)	$170,840,340	766	$56,660,637	$10,275,669
Upper Bound (~$150 million)	$256,260,510	1,149	$84,990,956	$15,413,504

Source: SMS

The following measures used to estimate economic impacts included in Table 42 can be defined as follows:

- **Output:** is an aggregated measure of all economic activity for the various industries affected by a project or other industry. It is typically measured as the summation of revenue, expense, adjustments for underreporting, changes in inventory, sales tax, and employee tips, minus cost of merchandise resales (State of Hawai'i, 2017). It is measured in terms of millions of dollars and applies to most manufacturing and services industries
- **Jobs:** refer to the number of new jobs created or supported in each industry resulting from economic activity in a separate industry or project. This measure corresponds to the change in number of jobs in an industry for a million dollar change in final demand. It is measured in terms of full-time equivalent jobs by industry.
- **Earnings:** can be defined as the income that is received by households from the production of regional goods and services and that are available for spending on goods and services, measured in terms of millions of dollars.
- **State taxes:** refer to the amount of tax revenue generated from changes in an industry's final demand. Specific taxes include the state's income tax, the General Excise Tax, the Transient Accommodation Tax, and a catch-all category for other taxes. Not included are property taxes, other county taxes, or federal taxes.
- **Direct impacts:** are impacts that are directly attributable to a change by a project or industry, within the same industry.
- **Indirect impacts:** refer to second-order effects that occur in other industries that support the original project or industry in question. They can be observed in changes to the values of sales and purchases of one industry or industries by a shock in another industry. In this analysis, the infusion of capital for a construction project is the shock to the construction industry and its subsequent direct impact on industries that directly support construction. The effects manifest themselves in greater output, earnings, jobs, and tax base in industries related to the original industry.
- **Induced impacts:** refer to the direct and indirect impacts of subsequent spending by employees, which resulted from the original exogenous shock by the project or in the industry.

Table 43 applies the same distribution of goods and purchases from Table 42 and allocates these figures to the specific industries known to be impacted by public investment.

Table 43: Distribution of Public Investment Impact on Industries

Industry	Increase in State and Local Govt Investment: Lower Bound	Increase in State and Local Govt Investment: Upper Bound
Heavy and Civil Engineering Construction	$37,470,000	$56,205,000
Wholesale Trade	$19,750,000	$29,625,000
Retail Trade	$10,280,000	$15,420,000
Additions and alterations	$9,880,000	$14,820,000
Computer systems design services	$3,940,000	$5,910,000
Construction of other buildings	$3,900,000	$5,850,000
Rental & leasing and others	$2,960,000	$4,440,000
Water transportation	$2,550,000	$3,825,000
Truck and rail transportation	$744,000	$1,110,000
Air transportation	$450,000	$675,000
Total Intermediate Input	$91,920,000	$137,880,000
Imports	$8,080,000	$12,120,000
Total	**$100,000,000**	**$150,000,000**

Source: SMS

Table 44 presents the top 11 industries likely to be most impacted by the proposed project, along with upper and lower estimates of output, jobs, earnings, and state taxes in each industry. Based on the estimates in Table 44, the industries most closely linked to construction will have the largest impact. It is estimated that the heavy and civil engineering and construction industry will demonstrate an additional $37.4 to $56.2 million in increased economic output on O'ahu, create or support between 134 and 202 jobs, produce $14.6 to $21.9 million in additional earnings, and generate $2.8 to $4.2 million in additional state tax revenues on O'ahu.

The wholesale trade and retail trade industries are also likely to experience a significant increase in economic activity as a result of this project. It is estimated that the wholesale trade industry will experience an additional $24.6 to $37 million in output, 82 to 122 jobs, $6.1 to $9.2 million in earnings, and generate $630,000 to $940,000 in state tax revenue. Retail trade, a sector influenced by the additional spending from the earnings produced by this project, is expected to experience $14.7 to $22.1 million in additional economic output, 121 to 182 jobs, $4.8 to $7.2 million in additional earnings, and generate $1.05 to $1.6 million in state tax revenue.

Table 44: Top Industries Impacted by Project Investment

Industry	Estimated Total Output in Millions: Lower Bound (Direct, Indirect and Induced)	Estimated Total Output in Millions: Upper Bound (Direct, Indirect and Induced)	Estimated Total Jobs: Lower Bound (Direct, Indirect and Induced)	Estimated Total Jobs: Upper Bound (Direct, Indirect and Induced)	Estimated Total Earnings in Millions: Lower Bound (Direct, Indirect and Induced)	Estimated Total Earnings in Millions: Upper Bound (Direct, Indirect and Induced)	Estimated State Tax in Millions: Lower Bound (Direct, Indirect and Induced)	Estimated State Tax in Millions: Upper Bound (Direct, Indirect and Induced)
Heavy and civil engineering construction	$37.47	$56.21	134	202	$14.62	$21.93	$2.79	$4.19
Wholesale trade	$24.65	$36.97	82	122	$6.14	$9.21	$0.63	$0.94
Retail trade	$14.74	$22.11	121	182	$4.81	$7.21	$1.05	$1.58
Additions and alterations	$14.29	$21.43	49	73	$5.29	$7.94	$1.01	$1.52
Real estate	$5.83	$8.74	18	27	$1.02	$1.54	$0.39	$0.59
Eating and drinking	$4.86	$7.30	42	63	$1.52	$2.27	$0.34	$0.51
Computer systems design services	$4.16	$6.24	24	36	$2.62	$3.94	$0.37	$0.55
Rental & leasing and others	$3.97	$5.96	11	16	$0.84	$1.26	$0.25	$0.38
Construction of other buildings	$3.90	$5.85	13	20	$1.48	$2.22	$0.29	$0.44
Accommodation	$3.34	$5.00	10	15	$0.71	$1.07	$0.46	$0.70
Architectural and engineering services	$3.25	$4.88	14	21	$1.58	$2.36	$0.26	$0.39
All others	$50.38	$75.57	248	372	$16.03	$24.04	$2.44	$3.62
Total	**$170.84**	**$256.26**	**766**	**1,149**	**$56.66**	**$84.99**	**$10.28**	**$15.41**

Source: SMS

Economic impacts are not relegated to just the construction-related industries. For example, the real estate industry will likely see $5.8 to $8.74 million in additional output, 18 to 27 jobs, $1 to $1.5 million in earnings, and $390,000 to $590,000 in tax revenue. Likewise, the rental and leasing industry is estimated to increase output by $4-6 million, jobs by 11-16 positions, earnings by $840,000 to $1.3 million, and tax revenues by $250,000 to $380,000.

The induced impacts of this project manifest themselves in other industries as well. Employee spending is likely to increase output in the eating and drinking industry by $4.9 to $7.3 million, increase jobs from 42 to 63 positions, add $1.5 to $2.3 million in earnings, and generate $340,000 to $510,000 for the state in taxes. It is estimated that the accommodation sector may

experience $4.2 to $6.2 million in additional output, 24 to 36 new jobs, $2.6 to $3.9 million in additional earnings, and $460,000 to $700,000 in state tax revenues.

These industries represent the largest beneficiaries of the project. Other industries that are estimated to experience smaller individual impact are likely to, in the aggregate, produce $50.4 to $75.6 million in additional output, 248 to 372 jobs, $16 to $24 million in earnings, and $2.4 to $3.6 million in state taxes.

3.12 Public Facilities and Services

Educational Facilities

The State of Hawai'i, Department of Education (DOE) operates the State's public school system. The proposed project is within the DOE's Central Region, Leilehua-Mililani-Waialua Complex, and is adjacent to the Pearl City-Waipahu Complex.

The following DOE schools are within proximity to the project site:

- Kipapa Elementary School
- Mililani Mauka Elementary School
- Mililani Middle School
- Mililani 'Ike Elementary School
- Wheeler Elementary School
- Wheeler Middle School
- Wahiawā Middle School
- Ka'ala Elementary School

Recreational Facilities

The recreational facilities and public parks within proximity to the project site are run by the U.S. Army Garrison, Wheeler Army Airfield, DLNR, or the City and County of Honolulu Department of Parks and Recreation (DPR).

The following parks and recreational facilities are within proximity to the project site:

- Mililani Dog Park
- Mililani Mauka District Park
- Ku'ulako Park
- Mililani Mauka Community Park
- Leilehua Golf Course
- Wheeler Dog Park
- Wahiawā Freshwater State Recreation Area
- Ka'ala Neighborhood Park

Police

The proposed project is in the Honolulu Police Department's District 2 Mililani/Wahiawā/North Shore District, Beat 256. The only police station within proximity to the project site is the Wahiawā Police Station, which is an approximate 3-mile drive.

In 2020, the Honolulu Police Department (HPD) responded to 859,164 calls for service. Of these, 44% were for emergencies and the remainder were non-emergent calls. The total calls for service were down 8.1% from the previous year.

Annual crime statistics for District 2 indicated that total offenses compiled in the Case Report System were down from 2,603 in 2019 to 2,300 in 2020 (-13.2%). Larceny accounted for the bulk of reported crimes (67.5%), followed by Auto Theft (14%) and Burglary (11.7%).

Fire

The project site is located within proximity to the Honolulu Fire Department's Fire Station 41 Mililani Mauka and Fire Station 16 Wahiawā. In 2020, the HFD received 34,000 calls for service. This represented a 2.7% decrease from 2019.

Hospitals

The Wahiawā General Hospital is the closest hospital to the project site. Wahiawā General Hospital is a community-owned, non-profit hospital that serves Wahiawā, Central O'ahu, and the North Shore communities on O'ahu.

Emergency Medical Services

None of the EMS offices are situated near the project site. EMS fielded 88,049 calls for service in 2020. Total calls for service were down 9.3% from the prior year.

Solid Waste Management

The City and County of Honolulu Department of Environmental Services, Refuse Division is the municipal agency responsible for the collection, transport, and disposal of O'ahu' s solid waste. Solid waste services include drop-off facilities, curbside collection, and recycling. Most of the residential and commercial solid waste is disposed of at H-POWER, the City's waste-to-energy plant, located at Campbell Industrial Park, or at one of two landfills: Waimānalo Gulch Sanitary Landfill or the PVT Landfill, both located on the Wai'anae Coast.

Potential Impacts and Mitigation Measures

The FRTC is not anticipated to adversely impact educational facilities or recreational facilities in the area. Some of the first responder agencies' facilities such as offices, headquarters, and training areas, will be relocated to the FRTC and will be designed to meet the operational and training needs of the agencies. This is anticipated to have a positive impact for first responder agencies' operations and processes, which will also positively impact the surrounding communities.

The proposed action will require a greater demand for utility infrastructure and services within the region since there are currently no improvements for these utilities on site to serve the FRTC. The full extent to which regional infrastructure and utilities may need to be upgraded to support the proposed action is contingent upon the final scope and scale of the final design effort undertaken by future phases; however, it is anticipated that adverse impacts would be appropriately mitigated through adherence to State, and County regulatory requirements and the implementation of applicable BMPs.

3.13 Open Space and Scenic Views

The proposed project site currently does not offer easily accessible views to significant landmarks or natural resources. The site is currently undeveloped and contains a dense forest of mature trees.

Potential Impacts and Mitigation Measures

The proposed project is not anticipated to have an adverse impact on open space and scenic views, as the project site is currently inhabited by a dense forest of mature trees. The development of the FRTC would provide open space through the land clearing activities necessary to develop the campus and may also potentially provide scenic views of the Wai‘anae Mountain Ranges due to the site’s higher elevation above the surrounding land uses. The existing trees along the perimeter of the site will be left in place to serve as a noise buffer between the FRTC and the U.S. Army Garrison property in the north, and the residential areas of Launani Valley and Mililani Mauka located south of the project site.

3.14 Agricultural Resources

As part of the Draft EIS, a draft report to assess the project’s impact on agriculture was prepared by Plasch Econ Pacific LLC (PEP) (see Appendix I). The report documented the previous agricultural activities that took place within the project site.

Parcel 057

By 1906, a majority of Parcel 057 was used for the cultivation of pineapple. Pineapple was a feasible crop for the area as it required little water compared to most other crops, and therefore could be irrigated by the natural rainfall. By the late 1920s, the land was farmed by James Dole’s Hawaiian Pineapple Company, now incorporated as Dole Food Company, Inc. (“Dole”).

By 2002, Dole had shifted all of its pineapple operations to O‘ahu’s North Shore in order to consolidate their operations near the Dole packing plant, base yard, and offices. The fields in Parcel 057 have not been farmed for at least 20 years and are now covered by a dense forest of mature trees.

Parcel 039

Between the mid-1800s to at least 1906, Parcel 039 may have been used for grazing cattle and possibly goats as it was within an area that was designated for grazing. Since then, the parcel has been covered by a dense forest of mature albizia trees and other tree species. Both the Agricultural Land Use Map (ALUM) for the 1978 to 1980 period and the 2015 Statewide Agricultural Land Use Baseline do not show any grazing or any other agricultural activity within Parcel 039.

Existing Conditions

Neither Parcel 039 or 057 are currently being used for agriculture. In addition, there are no agricultural activities occurring on lands abutting the project site.

Potential Impacts and Mitigation Measures

The proposed project will not have an adverse impact on agricultural activities within or near the project site. As required for the development of the FRTC, lands that are currently within the State Land Use Agricultural District will need to be redesignated to the Urban District. Although a majority of Parcel 039 is within the Agricultural District, the land is not suitable for growing commercial field crops due to poor soils, steep slopes, lack of irrigation water, and dense forest of mature trees. Therefore, the project will not result in a loss of agricultural land suitable for commercial field farming and will have no impact on the growth of crop farming in the state.

The proposed development of land that is currently designated, but unsuitable for, agriculture will be offset by the following benefits of the project:

Construction Activity:

- Construction jobs associated with the development of the project.
- Indirect jobs generated by purchases of goods and services by construction companies and families of construction workers.
- State tax revenues paid by construction companies and workers, and by companies and families supported by the construction activity.

Operations:

- Improved first responder training and services provided to the County and the State.
- Cost savings by first responder agencies as a result of the consolidated operations.
- On-site jobs that may exceed the current number of first responder jobs (I.e. the cost savings resulting from the consolidated operations may allow the agencies to hire more personnel).
- Possible increase in off-site jobs generated by purchases of goods and services by agencies, employees, and the families of employees.
- Possible increase in State tax revenues paid by off-site businesses and residents supported by the project's operations.

- Possible increase in City tax revenues paid by off-site businesses and residents supported by the project’s operations.

3.15 Cultural Practices and Resources

The State and its agencies have an affirmative obligation to preserve and protect the reasonable exercise of customarily and traditionally exercised rights of Hawaiians to the extent feasible. *Ka Pa‘akai* calls for a good faith effort on the part of the state to identify cultural resources, including traditional and customary practices, in the area. As such, a *Cultural Impact Assessment (CIA)* was prepared by Honua Consulting, LLC (“Honua”) for the FRTC that consisted of a thorough search of Hawaiian language documents, including but not limited to the Bishop Museum Mele Index and Bishop Museum archival documents, oral traditions (*oli* or chants, *mele* or songs, and/or hula dances and *ha‘i mo‘olelo* or storytelling performances), land use records, historic maps, books, manuscripts, and newspaper articles (see Appendix J). All Hawaiian language documents were reviewed by Hawaiian language experts to search for relevant information to include in the report. Honua also placed a notice in the Office of Hawaiian Affairs’ (OHA) *Ka Wai Ola* newspaper published in the month of December 2021 in an effort to gather information from the public. Individuals with cultural or historic knowledge of the area were approached for interviews.

Traditional Names

Traditional boundaries, specifically the extension of the Wai‘anae moku into Central O‘ahu via the Wai‘anae Uka ahupua‘a were modified when the Wahiawā District was created in the early 20th century. This reallocated the ahupua‘a of Wahiawā and Wai‘anae Uka (1976:134). The moku of ‘Ewa remained largely unchanged, with the notable exception that the mauka portions of the ahupua‘a of Waipi‘o and Waikele would become part of the new Mililani Town. What is known today as Wahiawa Town and Mililani Town are somewhat contemporaneous boundaries. While both are traditional names, both names were used differently in the pre-European contact era.

Several Hawaiian place names are known for features of the region and environment. Historic maps of the area show place names in the area. Table 45 lists place names in the vicinity of the project area, a description of the locations, their English translations, and sources of information.

Table 45: Place Names in Vicinity of the Project

Place Name	Description	Meaning	Reference
‘Ewa	Land division and district	*Lit.* Crooked	Pukui et al., 1974
Hale‘au‘au	Land area; stream, gulch; heiau	*Lit.* Bathing house	McAllister; Sterling and Summers; Pukui

Place Name	Description	Meaning	Reference
			et al. ;1974 Sohren 2008; Akana and Gonzales
Helemano or Halemano	Stream, ditch, reservoir	Many snared or many going; many houses	Pukui et al., 1974
Hoʻolonopahu	Heiau	*Lit.* To hear [the] drum	Soehren 2008
Kalakoa	Boundary point	None found. Possibly "the warrior day"	Soehren 2008
Kalena	Land section and peak	*Lit.* The lazy one or yellowish in nature as ʻōlena	Sterling and Summers; Pukui et al.
Kamoʻokapu	Boundary point	*Lit.* The sacred lizard	Soehren 2008
Kanuwai	Boundary point	*Lit.* Hereditary waters	Soehren 2008
Kawaimano	Boundary point	*Lit.* The many (sources of) fresh water	Soehren 2008
Kemoʻo	Land division	*Lit.* The lizard or "the fragment," as a piece of land	Pukui et al., 1974
Kolekole	Pass, possible sacrificial stone	*Lit.* Raw, scarred	McAllister; Sterling and Summers; Pukui et al.
Kūkaniloko	Wahi pana one of two royal birth sites		McAllister; Pukui et al.; Soehren 2008
Līhuʻe	Land section	*Lit.* Cold chill	Pukui et al., 1974
Oʻahunui	Stone	*Lit.* Large Oʻahu	HEN collection; Sterling and Summers
Paʻalaʻa	Land section	*Lit.* Sacred firmness	Pukui et al., 1974
Peʻahināiʻa	Hill	*Lit.* Beckon [to] the fish	Pukui et al., 1974
Poamoho	Stream, gulch, ridge and trail	None found; possibly poʻamoho, "chosen candidate"	Pukui et al., 1974
Pouhala	Fishpond and ahupuaʻa	*Lit.* Pandanus post	Pukui et al., 1974
Wahiawā	Ahupuaʻa, district	*Lit.* Place of noise	Pukui et al., 1974

Place Name	Description	Meaning	Reference
Waiʻanae	Land division and district	*Lit.* Mullet water	Pukui et al., 1974
Waiʻanae Uka	Ahupuaʻa	*Lit.* Unland Waiʻanae	Pukui et al., 1974
Waialua	Land division and district	Two waters; Fresh water of (chief) Lua	Pukui et al., 1974
Waikakalaua	Land section and stream	*Lit.* Water rough [from] rain	Pukui et al., 1974
Waikele	Land section, stream, and park	*Lit.,* muddy water	Pukui et al., 1974
Waipiʻo	Land section	*Lit.,* Curved water	Pukui et al., 1976

Source: Honua Consulting

Waikakalaua
Waikakalaua is primarily a land section. It is also the name of a stream that runs through Waikāne, Wahiawā, and Waipahu regions of Oʻahu. The name means "rough water (in) the rain." The name Waikakalaua is widely known and utilized, and various resources remain associated with the name. The resources documented in the 1870 map (Figure 30) show lauhala trees where Parcel 057 is located today, and reference to the "rock at Oahunui" and various references to stones and a kukui tree, that likely served to help with wayfinding for travelers.

Oahunui
Also notable from the 1870 map (Figure 30) is the designation of Oahunui as a place name. Like many Hawaiian terms, the name Oahunui was repeatedly used. In this case, it was both a place name and the name of a young King who lived in the area. It is unclear if the place was named for the young king Oahunui, or vice versa. From historic maps and documentation, it is highly likely that the area known in traditional times as Oahunui was actually located in the project area on Parcel 039.

Wahiawā
Wahiawā covers an area from the crest of the Koʻolau Mountains (east) to the center of the plateau just west of the junction of the north and south forks of Kaukonahua Stream; it is the name of the general area of the central plateau and the inland portion of Kamananui ahupuaʻa in the moku of Waialua, as well as in the mountainous, inland section of the moku of Waiʻanae which was previously divided into Waiʻanae Uka (mountain Waiʻanae, the upland plains located between the east side of Kaʻala mountains and the west side of the Koʻolau mountain range), and Waiʻanae Kai (oceanside Waiʻanae, extending from the western side of the Kaʻala mountains to the ocean). However, the boundaries underwent several geopolitical changes in the late 19th and early 20th centuries.

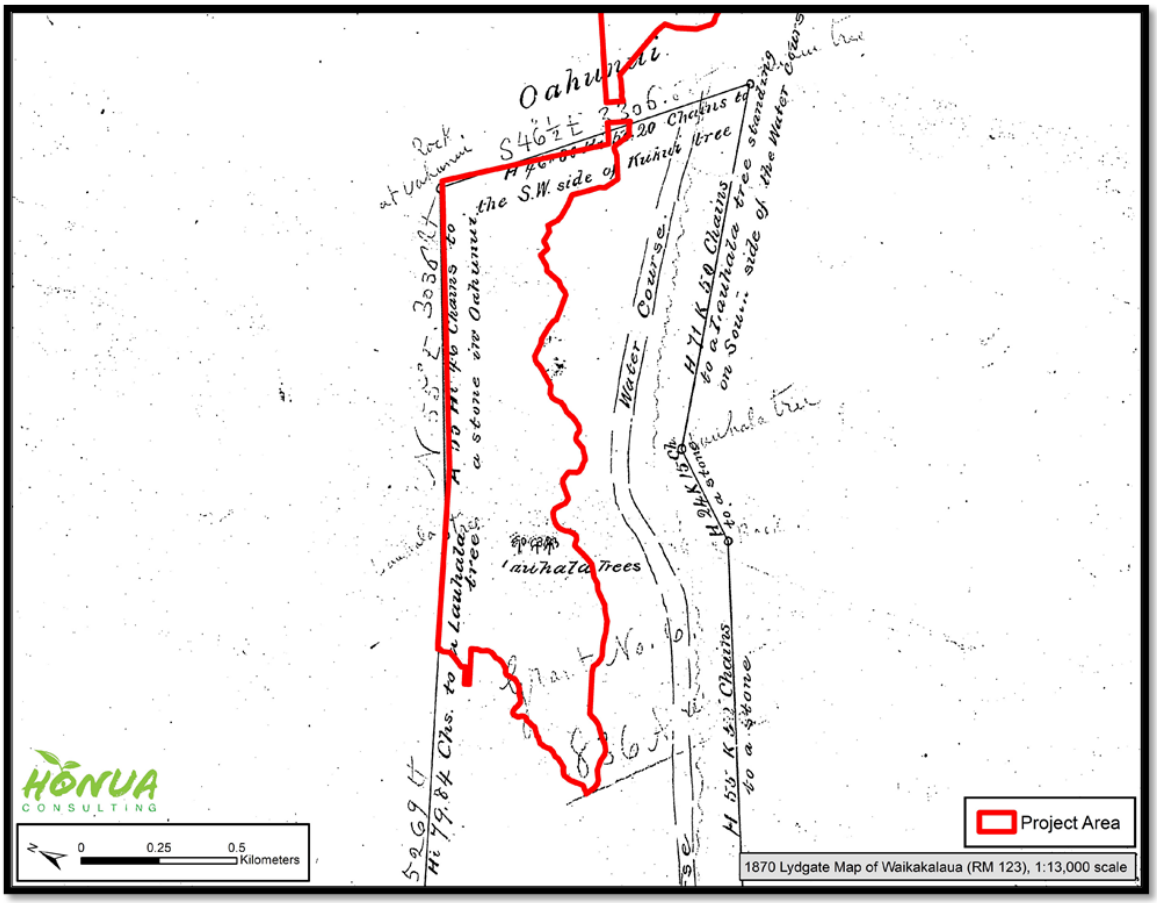
Kaukonahua
Kaukonahua is the stream that marks the southeastern boundary of Wahiawā. This is the north fork of the main drainage of the same name. The main stream flows 33 miles to the north shore, making it the longest waterway in the islands (Pukui et al., 1974:92). There are no traditions related to this place name. In 1902, stream diversions began from the north branch of Kaukonahua stream, which is fed by the Ko‘olau mountains east of Wahiawā, to the Wahiawā Water company ditch.

Early Historic Period to Mid-1800s
There is little known about the central O‘ahu plateau in the beginning of the 19th century. The earliest account was written by Serano Bishop, who, in the 1830s was a young man living at ‘Ewa with his missionary family. This is reinforced by the writing of John Papa ‘Ī‘ī who notes that some information about changes to this particular region were unknown by his time. The Bishop family often traveled across the island to visit the Waialua Mission Station and provided this information:

*“*There was then no road save a foot path across the generally smooth upland. We forded the streams. Beyond Kipapa gulch the upland was dotted with occasional groves of Koa trees. On the high plains ti plant abounded often so high as to intercept the view. No cattle then existed to destroy its succulent foliage. According to the statements of the natives a forest formerly covered the whole of the then nearly naked plains.” [Bishop, 1916:45]

The “nearly naked plains” could have resulted from one or a combination of several possibilities. Ti was a Polynesian introduction, traditionally useful for its leaves and roots. In 1990, Cuddihy and Stone noted that “many of the forests in which these early introductions [including ti] predominate are probably successional after Hawaiian cultivation” (Cuddihy and Stone, 1990:32). If so, the extent of ti plant on the central plateau could represent the after-effect of Hawaiian agriculture in the uplands. It is also possible that “nearly naked plains” were the result of sandalwood trade between Hawai‘i and Asia, which began in the 1790s.

Figure 30: 1870 Map of Waikakalaua



Source: Honua Consulting

Plantation Era

The introduction of the pineapple occurred in the early 1800s, but this crop did not begin cultivation at commercial levels until the 1890s and early 1900s (Harper, 1972).

Byron Orlando Clark, originally from Iowa, was an official with the Republic. He advocated for agriculture in the now-vacant 1,350 acres of land in Wahiawā starting from 1898. Clark lobbied for business associates from California to move to the homestead lands. By 1899, Clark had completed facilitating the issuance of government grants to the Californians and helped them settle in Wahiawā and obtain the citizenship needed for land acquisition (Wahiawā Historical Society). The area would become known as the Wahiawā Colony Tract, an area roughly bounded by the north and south forks of Kaukonahua Stream (Nedbalek, 1984:19).

In 1900, James D. Dole, obtained approximately 60 acres of homestead lands in Wahiawā. He set to work building a pineapple plantation and cannery; both became operational by 1903. This significantly contributed to the initial success of the settler colony (Nedbalek, 1984:25).

Within ten years, the homesteaders, including Clark, had grown a thriving pineapple industry with more than 250,000 cases being harvested seasonally (Mid-Pacific, 1911: 139). Thousands of acres were in production (Nedbalek, 1984:25). Wahiawā became the center of the pineapple industry. Clark led Clark Farm Co., Ltd., Dole led the Hawaiian Pineapple Company (which would become Dole Food Company.), W.B. Thomas established and lead the Thomas Pineapple Co. (which later became part of Libby, McNeill & Libby when the company expanded into canning fruit). The Thomas plantation consisted of approximately 600 acres in Wahiawā.

In the 20th century, plantations would expand across the region, including into the current project area (Figure 31). The 1962 aerial photo shows all of Parcel 057 under cultivation.

Interviews

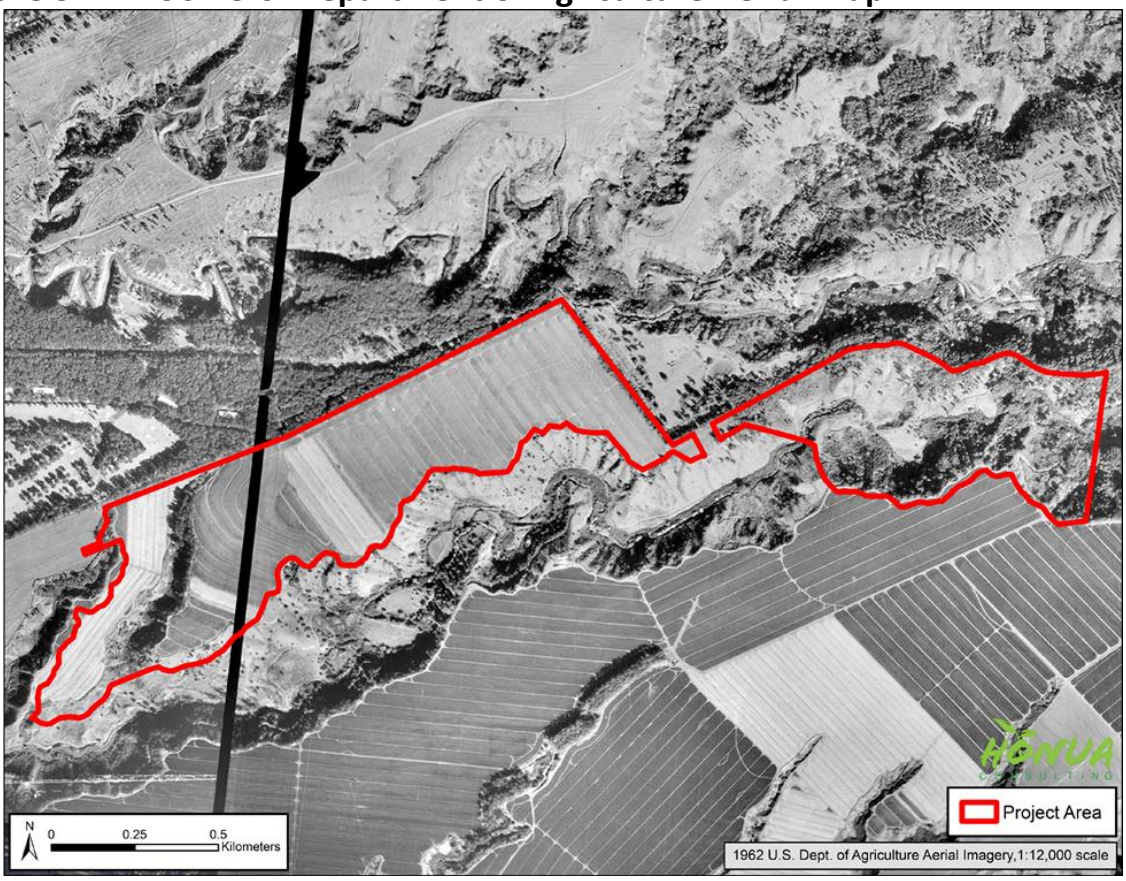
Interviews were requested with individuals from the area with knowledge about the area's history or cultural resources. On January 13th, 2022, Honua conducted an interview with Tom Lenchanko and Noelani De Vincent. Mr. Lenchanko said that he is associated with the project area because it is his generational family land; his family are guardians of the property, and it is their responsibility to guard and protect these lands. Ms. De Vincent is associated with the project area through being a community member and kumu hula. She is a 4th generation Wahiawā resident and has been learning more about the cultural landscape of the area over the past several years.

Mr. Lenchanko noted that there are native plant species in the project area, however they are difficult to see since they have been overtaken by non-native species. Regarding native birds, Mr. Lenchanko noted that DLNR would have better information on the species that may occupy the project area. He noted that the project area used to be filled with pineapple. Regarding the nearby stream, Mr. Lenchanko explained that the stream was known to have native species of fish (such as 'o'opu) when he was a child, but these species were impacted by development over the years. However, he still believes that some native species may remain.

Importantly, Mr. Lenchanko explained that the land itself is a cultural resource. For Hawaiians, engaging with the land allows for the development and understanding of cultural space. Without this, future generations may not have access to the same cultural resources and knowledge. Ms. De Vincent noted that according to her father, the area was previously pineapple fields. She knows through her family that the area had many cultural resources, particularly before the continual grading for pineapple fields.

On January 4th, 2022, Honua conducted an interview with Dodge Watson, whose genealogy traces back to the project area. Mr. Watson was not aware of any specific traditions or customs related to the area. He did mention that respecting the land during access and use was important. Mr. Watson also noted that there is hunting in the forested area north of the proposed project area.

Figure 31: 1962 U.S. Department of Agriculture Aerial Map



Source: Honua Consulting

An interview with Koko Watanabe was conducted on January 6th, 2022, by Honua. Ms. Watanabe is associated with the project area through her residency within the community, and also as an educator of the Hawaiian language. Ms. Watanabe noted that previously, there were a lot of Hawaiian plants located there, including pua, uluhe and perhaps 'ama'u. She also noted that there is a high possibility that people gathered plants in the upstream portions of the surrounding project area. She knows that pig hunters use the area.

On November 22, 2021, Honua conducted an interview with its founder, Dr. Trisha Kehaulani Watson, whose genealogy traces back to the area similar to her father Dodge Watson and grew up in the area during her youth. Dr. Watson believes that some agricultural uses continue in the general area, and it is important to ensure that the project, particularly the construction, does not impact these activities. She also suggested the importance of minimizing traffic impacts to the residents in Mililani Mauka and the Wahiawā-Whitmore neighborhoods. She supports maintaining a vegetation buffer between the project and homes and use of native flora throughout the campus with consideration of continued gathering access in support traditional or customary practices.

Traditional or Customary Practices in the Study Area

Lāʻau Lapaʻau

Lāʻau lapaʻau is the practice of traditional Hawaiian medicine. For centuries, native Hawaiians relied upon the environment around them to provide them medicine. It is still actively taught and practiced today. Medicinal experts or healers have intimate knowledge about plants and other resources to cure ailments, illnesses and sicknesses. Traditional medicine is practiced by native peoples and local communities around the world. Similarly, Native Hawaiians, over many generations, have learned how to properly care for, utilize, and prepare plants to maintain the community's health.

It was important to not only have plants and have access to plants but to ensure that these plants were healthy and in good condition. In the list of biological resources identified in the project site from the Biological Survey prepared by HTH, plants with medicinal capacity and components were identified. These resources are cultural resources. They are critical to the ongoing practice of traditional medicine and healing within the Native Hawaiian community. There are still many traditional medicine practitioners in the Hawaiian community and throughout the Hawaiian Islands today. It is a practice that is still taught to the younger generation, and it is a practice that is still honored and utilized in many Hawaiian households throughout the state.

One of the medicinal plants found in the project site is palaʻā (*Sphenomeris chinensis*). Palaʻā is used to make tea to aid with digestion. It can also be used in lei making and dye making. Uhaloa was also found to be within the project area. It is a common medicinal plant with a wide range of uses. Other trees of cultural value are kukui and koa, which have both medicinal and non-medicinal uses, including use for canoes, lamps, food, fishing, dye, and ceremonial purposes.

There are also Polynesian introduced plants that are used for cultural purposes. Kī (*Cordyline fruticosa (L.) A.Chev.)* is a widely used plant. It is perhaps one of the most commonly used plant in Hawaiian culture. It is used extensively by lāʻau lapaʻau practitioners in the treatment of a wide range of ailments. It was also used to make clothing, for food preparation, and used in hula practices.

Niu (*Cocos nucifera L.*) is also present in the area. Medicinal uses included: "Niu flesh, oil, leaf buds, and water were used in numerous medicines (see other plants). These include formulations for lepo paʻa (constipation), ʻea (thrush), paʻaoʻao, and the "illness related to lolo"; in addition, the leaf bud is made into a topical medicine for ʻeha moku kukonukonu and ʻeha ʻulia wale" (Bishop Museum 2022, citing Chun 1998:41). There is also a wide range of non-medicial uses including house building, eating and other domestic uses, and musical instruments. Niu is also considered the kino lau (body form) of the God Kū and also Niuolahiki. Pukui (1971:395), describes Niuloahiki as a kupua having three forms: man, puhi-kāpā), and coconui (niu). His name means the far-going coconut, and it is said that in his niu form,

Niuloahiki was "the pathway to a mythical island of the same name to which persons keeping the taboos might do after death."

Although it was not documented to be currently found within the project area, lauhala was identified to be within the area on historic maps. Lauhala is a valued plant for weaving, lei making, and other purposes. As it was indicated to be within the project area on the historic maps, it is likely that the habitat is still suitable for lauhala to grow in the area.

Modern Hunting
Modern hunting has largely been a product of foreign contact. From the introduction of modern weaponry to the introduction of foreign game, much of the hunting that occurs in Hawai'i today simply did not exist prior to the arrival of foreigners. Nonetheless, modern hunting is an important practice for many community members and practitioners who rely on hunting for subsistence. Pig hunting is recognized in Hawai'i as a protected customary practice and ethnographic data identified the area as being used by pig hunters.

While pigs were not identified during the biological assessment, signs of their presence were observed during the survey throughout the project area.

Potential Impacts and Mitigation Measures
Impacts to Flora
There is no endangered flora in the area. The impact to flora was covered in the biological assessment and there are no anticipated impacts to rare floral of cultural significance. Nonetheless, as discussed with and requested by the Hawaiian Civic Club of Wahiawā, the project should make an effort to plant native fauna in their landscaping in an effort to repopulate the area with indigenous, endemic, and native species within the project area.

Due to the nature of the project, access to the project area will become more limited. Therefore, in an effort to keep native plants and resources accessible, it is recommended to plant native plants, particularly those already known in the project area or historically may have occurred in the project area in a publicly accessible area off Kahelu Avenue, so practitioners can still access and gather plants without having to enter a secured area.

Impacts to Fauna
There is unlikely to be any impacts to candidate, threatened, or endangered fauna over the course of this project based on the biological assessment. Pig hunting occurs in the area, but there is also a nearby hunting area which would allow customary hunting practices to occur, therefore there is no impact to this practice anticipated because of this project.

Other Impacts
The project area has been largely disturbed due to previous agricultural use and extensive industrial use. Therefore, the project activities are unlikely to have any impact to intangible

cultural resources, as well as traditional and customary practices that take place in the surrounding region. In the event that historic resources or iwi kūpuna are inadvertently discovered during project work, area cultural descendants, and specifically the Hawaiian Civic Club of Wahiawā, should be engaged to care of the iwi.

Ka Paʻakai Analysis

It has long been the law of the land that the State of Hawaiʻi has an "obligation to protect the reasonable exercise of customary and traditionally exercised rights of Hawaiians to the extent feasible" *Public Access Shoreline Hawaiʻi v. Hawaiʻi County Planning Commission ("PASH") 79 Hawaiʻi 425, 450 n. 43, 903 P.2d 1246, 1271 n. 43 (1995)*. In 2000, as an outcome of the *Ka Paʻakai O Kaʻaina v. Land Use Commission* case ("Ka Paʻakai decision"), the Court established a framework "to help ensure the enforcement of traditional and customary Native Hawaiian rights while reasonably accommodating competing private development interests." 94 Hawaiʻi 31, 35, 7 P.3d 1068, 1972 (2000). This framework is referred to as the *Ka Pa'akai Analysis* and is used here to fulfill the goal of this CIA.

Based on the guidelines set forth in the *Ka Paʻakai Analysis*, the Hawaiʻi Supreme Court provided government agencies an analytical framework to ensure the protection and preservation of traditional and customary Native Hawaiian rights while reasonably accommodating competing private development, or other, interests. The Court has stated: "that in order to fulfill its duty to preserve and protect customary and traditional Native Hawaiian rights to the extent feasible, as required by Article XII, Section 7 of the Hawaiʻi Constitution, an administrative agency must, at minimum, make specific findings of fact and conclusions of law as to the following:

1. The identification of valued cultural, historical, or natural resources in the project area, including the extent to which traditional and customary Native Hawaiian rights are exercised in the project 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 to reasonably protect Native Hawaiian rights if they are found to exist. *Ka Paʻakai*, 94, Hawaiʻi at 47, 7 P.3d at 1084. Cited in *Matter of Contested Case Hearing Re Conservation District Use Application (CDUA) HA-3568 for the Thirty Meter Telescope at the Mauna Kea Science Reserve, Kaʻohe Mauka, Hāmākua, Hawaiʻi*, 143 Hawaiʻi 379, 431 P.3d 752 (2018) ("*Mauna Kea II*").

The CIA prepared by Honua satisfies line item one to identify "valued cultural, historical, or natural resources in the project area". Potential cultural, historical, or natural resources in the project area include hunting resources (i.e., pigs) and various plants with cultural value. Under line item two, adverse impacts to historic sites or culturally utilized plants would all be identified adverse impacts; any indirect or cumulative effects would create an adverse impact under the *Ka Paʻakai Analysis* if those actions harmed resources.

Practitioners noted that plants are gathered in the project area or near the project area. As the area is undeveloped, the access rights of Hawaiians are protected. This access will be stopped due to the security requirements of the project. The project may also result in the loss of native or Polynesian introduced plants in the area. The project should incorporate the recommendations from the biological survey to minimize any potential impacts to biological resources in the area, including any biological resources with cultural use. If these best management practices are implemented, then some of the potential adverse effects resulting from the project would be avoided.

To address the third line item of the *Ka Pa‘akai Analysis*, the “feasible” actions to protect Native Hawaiian rights may include providing continued access to the project site as needed to conduct cultural practices. The loss of pig hunting areas is feasibly addressed through the nearby hunting areas available to hunters. It is recommended that continued access to the project site be maintained for gathering plants. The plant gathering in the area is unlikely to be extensive, although the area was likely used traditionally for lauhala gathering. Therefore, in addition to the identified plants in the area, it is recommended that lauhala be used in landscaping to restore some of the native plants that were known to previously exist in the area.

3.16 Historic and Archaeological Resources

In July 2021, CSH prepared a *Draft Archaeological Literature Review and Field Inspection Report* for the FRTC (see Appendix K). CSH conducted a 100%-coverage pedestrian inspection of Parcel 057, and a brief pedestrian inspection of Parcel 039, for the purposes of cultural resource identification and documentation. In addition, CSH conducted background research including a review of previous archaeological studies on file at the SHPD office, and reviews of documents at the Hawai‘i State libraries, University of Hawai‘i libraries, Hawai‘i State Archives, Bishop Museum Archives, and historic maps at the State Department of Accounting and General Services (DAGS) office.

According to CSH’s report, the project site is located within the Waipio and Waikele Ahupua‘a in the moku (traditional district) of ‘Ewa. It is believed that the mauka (inland) portions of the Waipio Ahupua‘a were not likely a location of permanent Native Hawaiian settlement or traditional-style irrigated cultivation (e.g., taro), but were most likely a location where non-irrigated forest clearings of sweet potatoes and other crops were grown. In the late pre-contact and early post-contact times, Waipio is associated with intra- and inter-island struggles for control over O‘ahu and with the Hawaiian Kingdom’s entrance into the world market economy by means of the sandalwood trade.

In the middle of the 19th century, Native Hawaiian activity and habitation were clustered in the makai lowlands and fishponds near the coast. In contrast, the mauka regions were often described as virtually uninhabited. By the early 1900s, lands in the mauka portions of Waikele

and Waipio Ahupua'a were being acquired for pineapple cultivation. Parcel 057 was under pineapple cultivation and the southern border of the parcel was used as "grazing land". From 1929 to 1953, historic U.S. Geological Survey (USGS) maps indicate the rapid agricultural and military development that occurred within the area, including new roadways for military use, plantation camps, and water tanks.

During the late 20th century to the early 21st century, growth in the area focused on residential development, namely the development of the master-planned community of Mililani. The construction of the H-2 Freeway began in 1973, and by 1990 construction began for the Mililani Mauka residential area. No major developments have occurred within the project area since its abandonment from the plantation and various agricultural uses.

Based on the research conducted by CSH, eight archaeological studies were done within the vicinity of the project area. The earliest recorded archaeological study was done in 1933 by J. Gilbert McAllister, who identified one site, Site 204 Oahunui Stone, whose approximate location has been reported to be within or near the northeast corner of Parcel 057. The Oahunui Stone is described as a stone whose outline is said to resemble that of O'ahu, and was a site formerly visited by Hawaiians.

Based on background research, it is believed that traditional Hawaiian settlement was more concentrated near the coastal areas where marine sources were readily available. The Waikakalaua Gulch may have supported inland settlement by providing forest resources for traditional gathering. The reported location of the Oahunui Stone in or near the project area, and the associated legends surrounding the stone, suggest that a chiefly settlement may have been in the near vicinity. However, the lack of Land Commission Award claims in the immediate vicinity of the project area suggest that permanent habitation of the area may not have been common through the post-contact era.

Prior to its plantation use, it is also believed that the study area may have contained cultural resources related to gardening activities, wetland agricultural development, and habitation remnants. The intensity of land modification from decades of plantation agriculture is likely to have removed much of the evidence of traditional land uses. It is therefore anticipated that remnants of historic plantation infrastructure and features are likely to exist, as well as military-related structures. No traditional historic properties are anticipated in Parcel 057, although the likelihood of plantation-era infrastructure remnants is high.

From June 7 to June 11, 2021, CSH conducted a field survey of the project area. CSH identified a total of fourteen historic properties: four within Parcel 057 and ten within Parcel 039. During the field inspection, an alignment of basalt boulders and cobbles were observed, which were believed to be a portion of the features SIHP # 50-80-09-3401 and 50-80-09-4843 that were identified by Hommon and Ahlo in 1983 and by Kennedy in 1985. Later studies of the area were not able to identify the terrace, thus suggesting that the feature observed by CSH during the

field inspection was likely the result of the eroding cliff face. Both Hommon and Ahlo and Kennedy noted that the historic property does not warrant any further preservation work. A stacked basalt mound/ahu (CSH 1) was found near the southwest corner of Parcel 057. Two earthen ditches (CSH 2 and 3) were found in the northern and southern boundary of Parcel 057, and both are understood to be the remnants of a field channel for the former pineapple fields.

During the survey of Parcel 039, CSH encountered SIHP #50-80-09-5382, which consists of a military related concrete tunnel on the north slope of Waikakalaua Gulch originally observed by Robins and Spear in 2002. During the inspection CSH confirmed the observations made by Robins and Spear. Robins and Spear had proposed that SIHP #50-80-09-5382 is eligible for listing in the National Register of Historic Places under Criteria C and D. CSH encountered a historic habitation complex (designated as CSH 4) located approximately 11 meters (m) north of Waikakalaua Stream. CSH 4 contains eight sub-features consisting of retaining walls, small stair alignments, and concrete posts. Other potential historic properties identified in this parcel include a historic road network (CSH 5) that primarily extends along the banks of Waikakalaua Stream. Sub-features of this road include wooden gate posts and intermittent spans of stacked basalt retaining walls/alignments along the edges. Remnants of plantation-era infrastructure were also observed along the road, including a concrete structural remnant (CSH 6), remnant water pumping station (CSH 7), and water control complex (CSH 8). South of the Waikakalaua Stream is the site of a historic habitation complex consisting of basalt retaining walls, basalt and concrete staircases, and concrete walkways (CSH 9). The Waikakalaua Ditch Complex (CSH 10) contained features such as a dam, retaining walls, and sluice gates with foot bridges.

Table 46 documents the fourteen historic properties identified during the field inspection conducted by CSH. Two of the properties identified are believed to be portions of previously identified historic properties, and thus are labeled with their designated SIHP #s. Locations of the properties are provided in Figures 32 and 33.

Table 46: Historic Properties Identified by CSH

Identification #	Parcel Located In	Formal Type	Function
SIHP # 50-80-09-3401 & 50-80-09-4843	057	Retaining wall/terrace	Agriculture
SIHP # 50-80-09-5382	7-6-001:001 and 9-5-002:039	Tunnel/concrete structure	U.S. Military transportation/storage
CSH 1	057	Mound/ahu	Agriculture
CSH 2	057	Field ditch	Agriculture/water control
CSH 3	057	Field ditch	Agriculture/water control
CSH 4	039	Habitation complex	Habitation
CSH 5	039	Historic road network	Transportation

Identification #	Parcel Located In	Formal Type	Function
CSH 6	039	Concrete structural remnant	Indeterminate
CSH 7	039	Pump station	Water control
CSH 8	039	Concrete channel complex	Water control
CSH 9	039	Habitation complex	Habitation
CSH 10	039	Waikakalaua Ditch Complex	Water control
CSH 11	039	Earthen depression	Indeterminate
CSH 12	039	Cistern	Water control

Source: CSH

Potential Impacts and Mitigation Measures

In the report, CSH concluded that it is unlikely that there are traditional Hawaiian historic properties within Parcel 057 as the plantation-related historic properties identified were not in good condition and would likely only be significant for their information potential. CSH recommended that formal identification of the ditches (CSH 2 and 3) should be conducted prior to any projects that may impact them. They also recommended that the two historic properties identified within the gulch (SIHP # 50-80-09-3401/50-80-09-4843, and CSH 1) should be further investigated to determine function, age, extent, and significance, should any proposed developments have the potential to impact them.

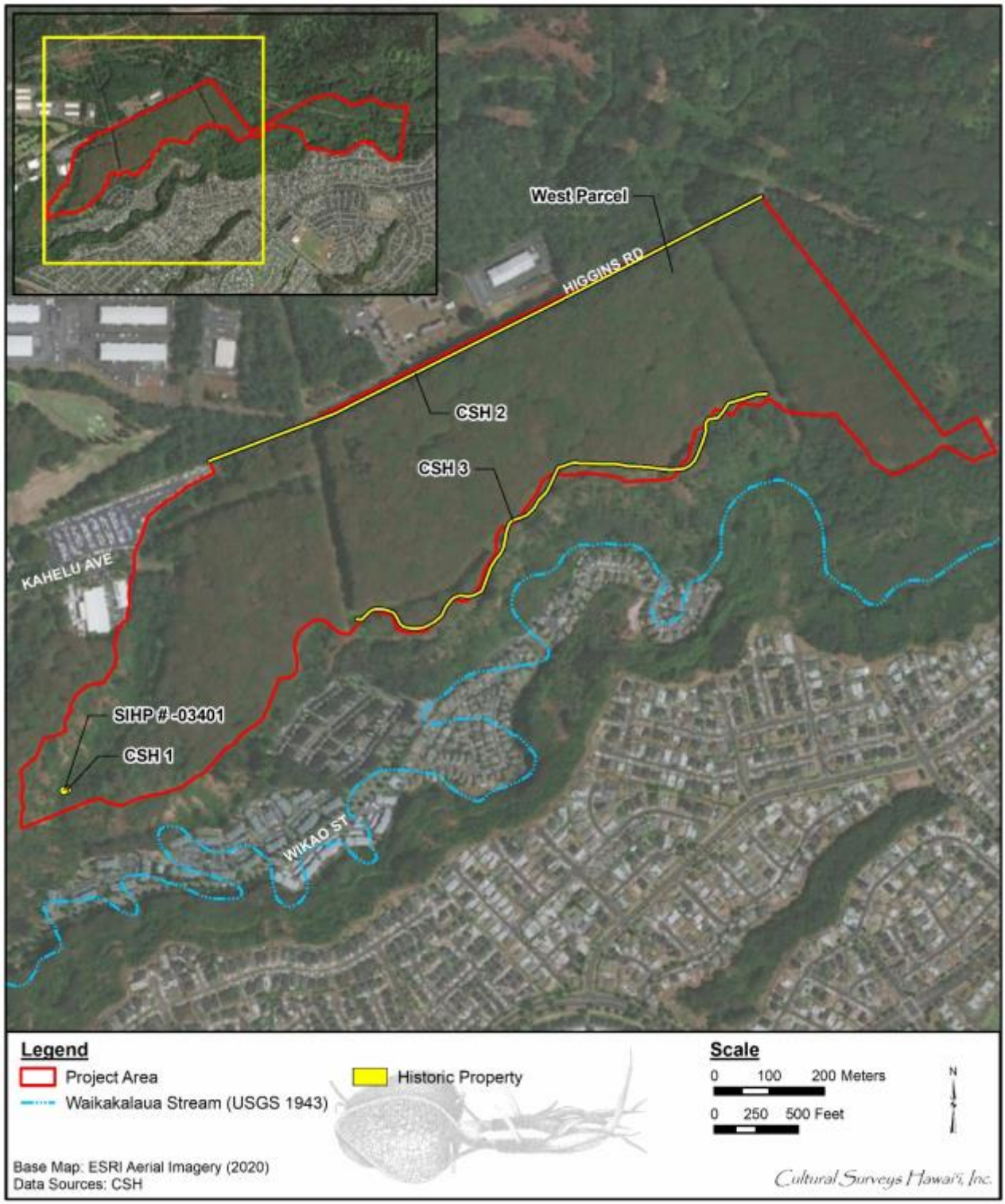
Regarding Parcel 039, the Waikakalaua Ditch complex is believed to have possible significance. CSH anticipates that there are likely additional features present in this parcel related to the historic properties identified during the field inspection. Thus, it is recommended that an archaeological investigation in consultation with SHPD should be done prior to any projects being planned for this parcel.

Further consultation with SHPD will be conducted to identify the necessary processes to minimize or avoid any potential impacts, and if needed, determine the necessary mitigation commitments to minimize the impacts to cultural or historic resources within the project area. Consultation with the O'ahu Island Burial Council and the cultural/lineal descendants of the area will also be conducted during the EIS process.

HTDC is concomitantly requesting SHPD's concurrence with the effect determination per HRS 6E-8 of "no historic properties affected" for the proposed actions on Parcel 057, as none of the historic properties within Waikakalaua Gulch on Parcel 057 is anticipated to be affected by the FRTC development. As a safe measure to further avoid potential impacts to known and unknown historic properties, HTDC proposes to implement the following best management practices during construction:

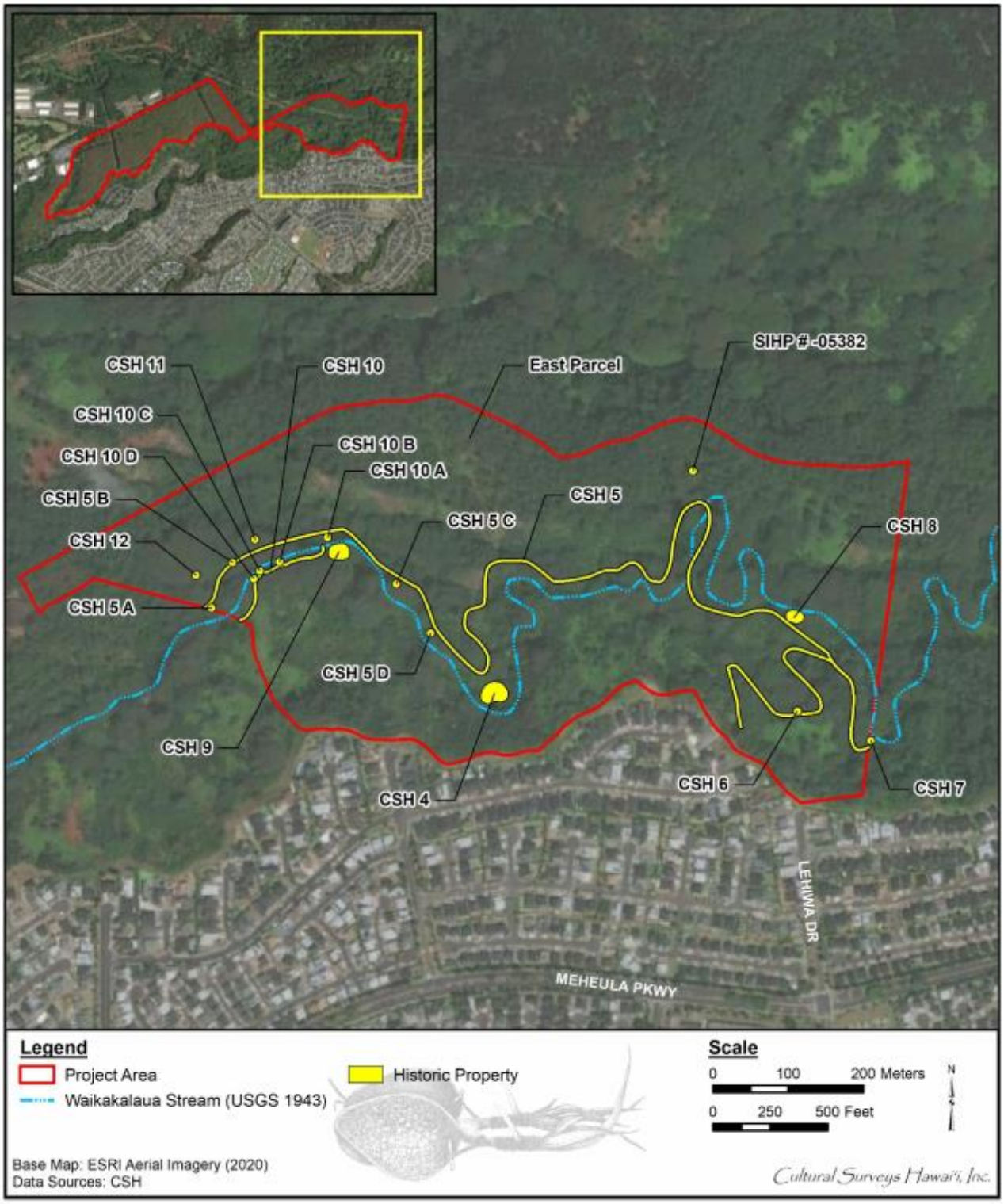
1. Interim protective measures consisting of high visibility material such as orange web fencing will be installed along the project limits where proposed work is required within 500 ft of significant historic properties and will be maintained for the duration of work in that area. The locations of significant historic properties and minimum buffers will be illustrated on the project's construction plans.
2. An archaeological monitoring program consisting of on-call monitoring with periodic spot checks will be conducted for identification purposes and to ensure the efficacy of the avoidance and protective measures.
3. The Hawaiian Civic Club of Wahiawā will be notified in the unlikely event that human remains or traditional (pre-Contact) historic properties are inadvertently discovered during construction.

Figure 32: Identified Historic Properties in Parcel 057



Source: CSH

Figure 33: Identified Historic Properties in Parcel 039



Source: CSH

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4.0 LAND USE PLANS AND POLICIES

This section describes the relationship of the proposed action to land use and natural or cultural resource plans, policies, and controls for the affected area. The subsections discuss how the proposed action may conform, or seek conformance, with objectives and specific terms of approved or proposed land use and resource plans, policies, and controls.

4.1 Conformity with Hawai‘i State Plan

The Hawai‘i State Plan was set forth by the Hawai‘i State Planning Act, which was signed into law in 1978 and codified under HRS Chapter 226. The plan is a long-range plan that identifies goals, objectives, policies, and priorities for the State. The plan is divided into three parts. The first part identifies the overall theme, goals, objectives, and policies of the State. The listing below identifies the objectives and policies that are met by the FRTC.

HRS Chapter 226 Hawai‘i State Planning Act **Part I. Overall Theme, Goals, Objectives, and Policies**	**Applicability to Project**
§226-5 Objective and policies for population	Not applicable
§226-6 Objectives and policies for the economy--in general	Not applicable
§226-7 Objectives and policies for the economy-- agriculture	Not applicable
§226-8 Objective and policies for the economy--visitor industry	**Applicable**
§226-9 Objective and policies for the economy--federal expenditures	**Applicable**
§226-10 Objective and policies for the economy--potential growth and innovative activities	**Applicable**
§226-10.5 Objectives and policies for the economy--information industry	Not applicable
§226-11 Objectives and policies for the physical environment--land-based, shoreline, and marine resources	Not applicable
§226-12 Objective and policies for the physical environment--scenic, natural beauty, and historic resources	Not applicable
§226-13 Objectives and policies for the physical environment--land, air, and water quality	Not applicable
§226-14 Objective and policies for facility systems--in general	Not applicable
§226-15 Objectives and policies for facility systems--solid and liquid wastes	Not applicable
§226-16 Objective and policies for facility systems--water	Not applicable
§226-17 Objectives and policies for facility systems--transportation	Not applicable
§226-18 Objectives and policies for facility systems--energy	Not applicable
§226-18.5 Objectives and policies for facility systems--telecommunications	Not applicable
§226-19 Objectives and policies for socio-cultural advancement--housing	**Applicable**
§226-20 Objectives and policies for socio-cultural advancement--health	Not applicable
§226-21 Objective and policies for socio-cultural advancement--education	Not applicable
§226-22 Objective and policies for socio-cultural advancement--social services	Not applicable
§226-23 Objective and policies for socio-cultural advancement--leisure	Not applicable

§226-24 Objective and policies for socio-cultural advancement--individual rights and personal well-being	Not applicable
§226-25 Objective and policies for socio-cultural advancement--culture	Not applicable
§226-26 Objective and policies for socio-cultural advancement--public safety	**Applicable**
§226-27 Objective and policies for socio-cultural advancement--government	**Applicable**
Part III. Priority Guidelines	
§226-103 Economic priority guidelines	**Applicable**
§226-104 Population growth and land resources priority guidelines	Not applicable
§226-105 Crime and criminal justice	**Applicable**
§226-106 Affordable housing	**Applicable**
§226-107 Quality education	Not applicable
§226-108 Sustainability	**Applicable**
§226-109 Climate change adaptation priority guidelines	**Applicable**

§226-8 Objective and policies for the economy--visitor industry.
(a) 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 Hawaiʻi's economy.
(b) To achieve the visitor industry objective, it shall be the policy of this State to:
(1) Support and assist in the promotion of Hawaiʻi's visitor attractions and facilities.
(2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawaiʻi's people.
(3) Improve the quality of existing visitor destination areas by utilizing Hawaiʻi's strengths in science and technology.
(4) Encourage cooperation and coordination between the government and private sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities.
(5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawaiʻi's people.
(6) Provide opportunities for Hawaiʻi's people to obtain job training and education that will allow for upward mobility within the visitor industry.
(7) Foster a recognition of the contribution of the visitor industry to Hawaiʻi's economy and the need to perpetuate the aloha spirit.
(8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawaiʻi's cultures and values.

Discussion: The FRTC proposes to set aside land for private development of a hotel/dormitory accommodation. There are currently no hotels in the Central Oʻahu communities of Mililani and Wahiawā. The first responder agencies' trainees from all islands are anticipated to use the dormitory-like rooms during their training at the FRTC. It is also anticipated that the FRTC will serve as a regional training facility within the Pacific region, thus providing a greater demand for accommodations on or near the campus. In addition, government/military and corporate demands are expected to be accommodated by the hotel for the FRTC and the nearby Schofield

Barracks, Wheeler Army Airfield, the surrounding businesses located in MTP Phase I and visitors and guests of the Central Oʻahu region.

The addition of a hotel/dormitory would provide new job opportunities and revenue to contribute to Hawaiʻi's economy (see Table 42 in Section 3.11). The hotel/dormitory is anticipated to have an approximate 150-bed hotel occupancy and a 100-bed dormitory-like occupancy that will supply the anticipated demand within the community and the FRTC. It is not intended for the hotel to stimulate visitor activity within the area or to promote the project site as a new visitor destination; rather, the hotel/dormitory is intended to serve the needs of the first responder trainees and anticipated demands from the community, corporate, government, and military sectors within the immediate area.

§226-9 Objective and policies for the economy--federal expenditures.
(a) Planning for the State's economy with regard to federal expenditures shall be directed towards achievement of the objective of a stable federal investment base as an integral component of Hawaiʻi's economy.
(b) To achieve the federal expenditures objective, it shall be the policy of this State to:
(1) Encourage the sustained flow of federal expenditures in Hawaiʻi that generates long-term government civilian employment;
(2) Promote Hawaiʻi's supportive role in national defense, in a manner consistent with Hawaiʻi's social, environmental, and cultural goals by building upon dual-use and defense applications to develop thriving ocean engineering, aerospace research and development, and related dual-use technology sectors in Hawaiʻi's economy;
(3) Promote the development of federally supported activities in Hawaiʻi that respect statewide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawaiʻi's environment;
(4) Increase opportunities for entry and advancement of Hawaiʻi's people into federal government service;
(5) Promote federal use of local commodities, services, and facilities available in Hawaiʻi;
(6) Strengthen federal-state-county communication and coordination in all federal activities that affect Hawaiʻi; and
(7) Pursue the return of federally controlled lands in Hawaiʻi that are not required for either the defense of the nation or for other purposes of national importance, and promote the mutually beneficial exchanges of land between federal agencies, the State, and the counties.

Discussion: The FRTC will include facilities for multiple Federal, State, and County first responder agencies within one campus centrally located on Oʻahu for training and disaster preparedness purposes. Locating multiple agencies on one campus with shared facilities helps to reduce the amount of money that each agency would have otherwise spent on building their own individual facilities. The shared facilities will also include state-of-the-art training facilities and outdoor training areas, which would increase the training capacity, and thereby increase the job opportunities, within the first responder agencies. In addition, locating multiple

agencies from all levels of the government would promote and strengthen the federal-state-county communication and coordination in all federal activities that affect Hawaiʻi, and would allow the agencies to be better prepared to handle natural and/or manmade disasters.

§226-10 Objective and policies for the economy--potential growth and innovative activities.
(a) 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 Hawaiʻi's economic base.
(b) To achieve the potential growth and innovative activity objective, it shall be the policy of this State to:

(1) Facilitate investment and employment growth in economic activities that have the potential to expand and diversify Hawaiʻi's economy, including but not limited to diversified agriculture, aquaculture, renewable energy development, creative media, health care, and science and technology-based sectors;
(2) Facilitate investment in innovative activity that may pose risks or be less labor-intensive than other traditional business activity, but if successful, will generate revenue in Hawaiʻi through the export of services or products or substitution of imported services or products;
(3) Encourage entrepreneurship in innovative activity by academic researchers and instructors who may not have the background, skill, or initial inclination to commercially exploit their discoveries or achievements;
(4) Recognize that innovative activity is not exclusively dependent upon individuals with advanced formal education, but that many self-taught, motivated individuals are able, willing, sufficiently knowledgeable, and equipped with the attitude necessary to undertake innovative activity;
(5) Increase the opportunities for investors in innovative activity and talent engaged in innovative activity to personally meet and interact at cultural, art, entertainment, culinary, athletic, or visitor-oriented events without a business focus;
(6) Expand Hawaiʻi's capacity to attract and service international programs and activities that generate employment for Hawaiʻi's people;
(7) Enhance and promote Hawaiʻi's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts;
(8) Accelerate research and development of new energy-related industries based on wind, solar, ocean, underground resources, and solid waste;
(9) Promote Hawaiʻi's geographic, environmental, social, and technological advantages to attract new or innovative economic activities into the State;
(10) Provide public incentives and encourage private initiative to attract new or innovative industries that best support Hawaiʻi's social, economic, physical, and environmental objectives;
(11) Increase research and the development of ocean-related economic activities such as mining, food production, and scientific research;

(12) Develop, promote, and support research and educational and training programs that will enhance Hawaiʻi's ability to attract and develop economic activities of benefit to Hawaiʻi;
(13) Foster a broader public recognition and understanding of the potential benefits of new or innovative growth-oriented industry in Hawaiʻi;
(14) Encourage the development and implementation of joint federal and state initiatives to attract federal programs and projects that will support Hawaiʻi's social, economic, physical, and environmental objectives;
(15) Increase research and development of businesses and services in the telecommunications and information industries;
(16) Foster the research and development of nonfossil fuel and energy efficient modes of transportation; and
(17) Recognize and promote health care and health care information technology as growth industries.

Discussion: The FRTC is envisioned to be a state-of-the-art facility and will include various uses ranging from office, classroom and warehouse uses to fitness facilities, indoor shooting range and other various types of training facilities for first responder agencies. It would be the first facility of its kind in the State of Hawaiʻi, and it is envisioned that it would serve as a regional training facility for other first responder agencies from the Pacific region to train and learn together at the FRTC. The FRTC would encourage the development and implementation of joint federal, State, and County initiatives and would provide the much-needed individual and shared facilities that each of the first responder agencies need. Having a campus that includes multiple agencies from the Federal, State, and County promotes coordination and cross-training amongst the agencies, which would help to increase the level of first responder services provided to the State.

§226-19 Objectives and policies for socio-cultural advancement--housing.
(a) Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives:
(1) Greater opportunities for Hawaiʻi's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more rental and for sale affordable housing is made available to extremely low-, very low-, lower-, moderate-, and above moderate-income segments of Hawaiʻi's population.
(2) The orderly development of residential areas sensitive to community needs and other land uses.
(3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawaiʻi's people.
(b) To achieve the housing objectives, it shall be the policy of this State to:
(1) Effectively accommodate the housing needs of Hawaiʻi's people.

(2) Stimulate and promote feasible approaches that increase affordable rental and for sale housing choices for extremely low-, very low-, lower-, moderate-, and above moderate-income households.
(3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.
(4) Promote appropriate improvement, rehabilitation, and maintenance of existing rental and for sale housing units and residential areas.
(5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.
(6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.
(7) Foster a variety of lifestyles traditional to Hawai‘i through the design and maintenance of neighborhoods that reflect the culture and values of the community.
(8) Promote research and development of methods to reduce the cost of housing construction in Hawai‘i.

Discussion: The proposed project will also include land set aside for private development of workforce housing, which would be available to those employed in the first responder agencies and to those within the surrounding community. The workforce housing is intended to support the current and future housing needs of the Central O‘ahu population, which is projected to increase as noted in Section 3.11. In addition, the location of the housing next to the FRTC and the businesses in MTP would encourage a live, work, and play environment within the surrounding area.

§226-26 Objectives and policies for socio-cultural advancement--public safety.
(a) Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives:
(1) Assurance of public safety and adequate protection of life and property for all people.
(2) Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances.
(3) Promotion of a sense of community responsibility for the welfare and safety of Hawai‘i's people.
(b) To achieve the public safety objectives, it shall be the policy of this State to:
(1) Ensure that public safety programs are effective and responsive to community needs.
(2) Encourage increased community awareness and participation in public safety programs.
(c) To further achieve public safety objectives related to criminal justice, it shall be the policy of this State to:
(1) Support criminal justice programs aimed at preventing and curtailing criminal activities.

(2) Develop a coordinated, systematic approach to criminal justice administration among all criminal justice agencies.
(3) Provide a range of correctional resources which may include facilities and alternatives to traditional incarceration in order to address the varied security needs of the community and successfully reintegrate offenders into the community.
(d) To further achieve public safety objectives related to emergency management, it shall be the policy of this State to:
(1) Ensure that responsible organizations are in a proper state of readiness to respond to major war-related, natural, or technological disasters and civil disturbances at all times.
(2) Enhance the coordination between emergency management programs throughout the State.

Discussion: The proposed project is intended to provide for the current and future training and operational needs of the first responder agencies to enhance their organizational readiness and capability to provide first responder services to the State and Island of O‘ahu. Locating multiple agencies on one campus would also increase and enhance the coordination amongst the Federal, State, and County agencies.

§226-27 Objectives and policies for socio-cultural advancement--government.
(a) Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives:
(1) Efficient, effective, and responsive government services at all levels in the State.
(2) Fiscal integrity, responsibility, and efficiency in the state government and county governments.
(b) To achieve the government objectives, it shall be the policy of this State to:
(1) Provide for necessary public goods and services not assumed by the private sector.
(2) Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response.
(3) Minimize the size of government to that necessary to be effective.
(4) Stimulate the responsibility in citizens to productively participate in government for a better Hawai‘i.
(5) Assure that government attitudes, actions, and services are sensitive to community needs and concerns.
(6) Provide for a balanced fiscal budget.
(7) Improve the fiscal budgeting and management system of the State.
(8) Promote the consolidation of state and county governmental functions to increase the effective and efficient delivery of government programs and services and to eliminate duplicative services wherever feasible.

Discussion: The FRTC is intended to locate multiple first responder agencies on one campus to provide the necessary individual and shared facilities of each agency, which would reduce the cost each agency would spend to develop the facilities on their own. Most of the agencies are

currently in buildings and facilities that are outdated or not capable of supporting their operational needs. Locating the agencies to the FRTC would provide a more efficient use of money spent on facilities and maintenance, as many of the agencies have shared needs and would benefit from shared facilities and training areas. The FRTC would also promote coordination amongst the agencies, which would increase the effective and efficient delivery of first response services provided to the community.

§226-103 Economic priority guidelines.

(a) Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawaiʻi's people and achieve a stable and diversified economy:

(1) Seek a variety of means to increase the availability of investment capital for new and expanding enterprises.

(A) Encourage investments which:

(i) Reflect long-term commitments to the State;

(ii) Rely on economic linkages within the local economy;

(iii) Diversify the economy;

(iv) Reinvest in the local economy;

(v) Are sensitive to community needs and priorities; and

(vi) Demonstrate a commitment to provide management opportunities to Hawaiʻi residents; and

(B) Encourage investments in innovative activities that have a nexus to the State, such as:

(i) Present or former residents acting as entrepreneurs or principals;

(ii) Academic support from an institution of higher education in Hawaiʻi;

(iii) Investment interest from Hawaiʻi residents;

(iv) Resources unique to Hawaiʻi that are required for innovative activity; and

(v) Complementary or supportive industries or government programs or projects.

(2) Encourage the expansion of technological research to assist industry development and support the development and commercialization of technological advancements.

(3) Improve the quality, accessibility, and range of services provided by government to business, including data and reference services and assistance in complying with governmental regulations.

(4) Seek to ensure that state business tax and labor laws and administrative policies are equitable, rational, and predictable.

(5) Streamline the processes for building and development permit and review and telecommunication infrastructure installation approval and eliminate or consolidate other burdensome or duplicative governmental requirements imposed on business, where scientific evidence indicates that public health, safety, and welfare would not be adversely affected.

(6) Encourage the formation of cooperatives and other favorable marketing or distribution arrangements at the regional or local level to assist Hawaiʻi's small-scale producers, manufacturers, and distributors.

(7) Continue to seek legislation to protect Hawaiʻi from transportation interruptions between Hawaiʻi and the continental United States.

(8) Provide public incentives and encourage private initiative to develop and attract industries which promise long-term growth potentials and which have the following characteristics:

(A) An industry that can take advantage of Hawaiʻi's unique location and available physical and human resources.

(B) A clean industry that would have minimal adverse effects on Hawaiʻi's environment.

(C) An industry that is willing to hire and train Hawaiʻi's people to meet the industry's labor needs at all levels of employment.

(D) An industry that would provide reasonable income and steady employment.

(9) Support and encourage, through educational and technical assistance programs and other means, expanded opportunities for employee ownership and participation in Hawaiʻi business.

(10) Enhance the quality of Hawaiʻi's labor force and develop and maintain career opportunities for Hawaiʻi's people through the following actions:

(A) Expand vocational training in diversified agriculture, aquaculture, information industry, and other areas where growth is desired and feasible.

(B) Encourage more effective career counseling and guidance in high schools and post-secondary institutions to inform students of present and future career opportunities.

(C) Allocate educational resources to career areas where high employment is expected and where growth of new industries is desired.

(D) Promote career opportunities in all industries for Hawaiʻi's people by encouraging firms doing business in the State to hire residents.

(E) Promote greater public and private sector cooperation in determining industrial training needs and in developing relevant curricula and on- the-job training opportunities.

(F) Provide retraining programs and other support services to assist entry of displaced workers into alternative employment.

(b) Priority guidelines to promote the economic health and quality of the visitor industry:

(1) Promote visitor satisfaction by fostering an environment which enhances the aloha spirit and minimizes inconveniences to Hawaiʻi's residents and visitors.

(2) Encourage the development and maintenance of well-designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities, and which provide for adequate shoreline setbacks and beach access.

(3) Support appropriate capital improvements to enhance the quality of existing resort destination areas and provide incentives to encourage investment in upgrading, repair, and maintenance of visitor facilities.

(4) Encourage visitor industry practices and activities which respect, preserve, and enhance Hawaiʻi's significant natural, scenic, historic, and cultural resources.

(5) Develop and maintain career opportunities in the visitor industry for Hawaiʻi's people, with emphasis on managerial positions.

(6) Support and coordinate tourism promotion abroad to enhance Hawai‘i's share of existing and potential visitor markets.

(7) Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter.

(8) Support law enforcement activities that provide a safer environment for both visitors and residents alike.

(9) Coordinate visitor industry activities and promotions to business visitors through the state network of advanced data communication techniques.

(c) Priority guidelines to promote the continued viability of the sugar and pineapple industries:

(1) Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries.

(2) Continue efforts to maintain federal support to provide stable sugar prices high enough to allow profitable operations in Hawai‘i.

(3) Support research and development, as appropriate, to improve the quality and production of sugar and pineapple crops.

(d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture:

(1) Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands.

(2) Assist in providing adequate, reasonably priced water for agricultural activities.

(3) Encourage public and private investment to increase water supply and to improve transmission, storage, and irrigation facilities in support of diversified agriculture and aquaculture.

(4) Assist in the formation and operation of production and marketing associations and cooperatives to reduce production and marketing costs.

(5) Encourage and assist with the development of a waterborne and airborne freight and cargo system capable of meeting the needs of Hawai‘i's agricultural community.

(6) Seek favorable freight rates for Hawai‘i's agricultural products from interisland and overseas transportation operators.

(7) Encourage the development and expansion of agricultural and aquacultural activities which offer long-term economic growth potential and employment opportunities.

(8) Continue the development of agricultural parks and other programs to assist small independent farmers in securing agricultural lands and loans.

(9) Require agricultural uses in agricultural subdivisions and closely monitor the uses in these subdivisions.

(10) Support the continuation of land currently in use for diversified agriculture.

(11) Encourage residents and visitors to support Hawai‘i's farmers by purchasing locally grown food and food products.

(e) Priority guidelines for water use and development:

(1) Maintain and improve water conservation programs to reduce the overall water consumption rate.

(2) Encourage the improvement of irrigation technology and promote the use of nonpotable water for agricultural and landscaping purposes.
(3) Increase the support for research and development of economically feasible alternative water sources.
(4) Explore alternative funding sources and approaches to support future water development programs and water system improvements.

(f) Priority guidelines for energy use and development:
(1) Encourage the development, demonstration, and commercialization of renewable energy sources.
(2) Initiate, maintain, and improve energy conservation programs aimed at reducing energy waste and increasing public awareness of the need to conserve energy.
(3) Provide incentives to encourage the use of energy conserving technology in residential, industrial, and other buildings.
(4) Encourage the development and use of energy conserving and cost-efficient transportation systems.

(g) Priority guidelines to promote the development of the information industry:
(1) Establish an information network, with an emphasis on broadband and wireless infrastructure and capability, that will serve as the foundation of and catalyst for overall economic growth and diversification in Hawai‘i.
(2) Encourage the development of services such as financial data processing, a products and services exchange, foreign language translations, telemarketing, teleconferencing, a twenty-four-hour international stock exchange, international banking, and a Pacific Rim management center.
(3) Encourage the development of small businesses in the information field such as software development; the development of new information systems, peripherals, and applications; data conversion and data entry services; and home or cottage services such as computer programming, secretarial, and accounting services.
(4) Encourage the development or expansion of educational and training opportunities for residents in the information and telecommunications fields.
(5) Encourage research activities, including legal research in the information and telecommunications fields.
(6) Support promotional activities to market Hawai‘i's information industry services.
(7) Encourage the location or co-location of telecommunication or wireless information relay facilities in the community, including public areas, where scientific evidence indicates that the public health, safety, and welfare would not be adversely affected.

Discussion: Locating multiple agencies at the FRTC would provide a more efficient means of meeting the overlapping operational and training needs of the first responder agencies through the use of shared facilities and spaces. Although the FRTC would require a large initial investment, having shared facilities would reduce the cost each agency would spend to develop the facilities on their own. It would also reduce the cost that agencies currently incur from renting or leasing space from private entities, along with costs spent on maintaining and

improving spaces and facilities that do not meet the agencies' current operational and training needs.

§226-105 Crime and criminal justice. Priority guidelines in the area of crime and criminal justice:

(1) Support law enforcement activities and other criminal justice efforts that are directed to provide a safer environment.
(2) Target state and local resources on efforts to reduce the incidence of violent crime and on programs relating to the apprehension and prosecution of repeat offenders.
(3) Support community and neighborhood program initiatives that enable residents to assist law enforcement agencies in preventing criminal activities.
(4) Reduce overcrowding or substandard conditions in correctional facilities through a comprehensive approach among all criminal justice agencies which may include sentencing law revisions and use of alternative sanctions other than incarceration for persons who pose no danger to their community.
(5) Provide a range of appropriate sanctions for juvenile offenders, including community-based programs and other alternative sanctions.
(6) Increase public and private efforts to assist witnesses and victims of crimes and to minimize the costs of victimization.

Discussion: The PSD and HPD are agencies intended to relocate their facilities to the FRTC. Locating multiple first responder agencies to one campus would increase the coordination amongst the agencies and enhance and streamline their operations by providing the necessary facilities and training areas. Providing the necessary facilities and training areas for the first responder agencies would in turn provide effective and efficient delivery of first response services to the community.

§226-106 Affordable housing. Priority guidelines for the provision of affordable housing:

(1) Seek to use marginal or nonessential agricultural land, urban land, and public land to meet housing needs of extremely low-, very low-, lower-, moderate-, and above moderate-income households.
(2) Encourage the use of alternative construction and development methods as a means of reducing production costs.
(3) Improve information and analysis relative to land availability and suitability for housing.
(4) Create incentives for development which would increase home ownership and rental opportunities for Hawai‘i's extremely low-, very low-, lower-, and moderate-income households and residents with special needs.
(5) Encourage continued support for government or private housing programs that provide low interest mortgages to Hawai‘i's people for the purchase of initial owner-occupied housing.
(6) Encourage public and private sector cooperation in the development of rental housing alternatives.

(7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations.
(8) Give higher priority to the provision of quality housing that is affordable for Hawaiʻi's residents and less priority to development of housing intended primarily for individuals outside of Hawaiʻi.

Discussion: The FRTC would include land set aside for the private development of workforce housing to meet the Central Oʻahu region and the island's current and future housing needs. The FRTC is proposed to be on land that is currently undeveloped and designated within the State Land Use Agricultural and Urban Districts. Prior to HTDC's purchase of the parcels, Parcel 057 was proposed to be developed into Phase II of the MTP development, which would have included campus industrial uses and open space areas. The proposed FRTC site would not only provide for the needs of the first responder agencies, but it would also provide for the housing needs for Hawaiʻi's residents.

§226-108 Sustainability. Priority guidelines and principles to promote sustainability shall include:
(1) Encouraging balanced economic, social, community, and environmental priorities;
(2) Encouraging planning that respects and promotes living within the natural resources and limits of the State;
(3) Promoting a diversified and dynamic economy;
(4) Encouraging respect for the host culture;
(5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations;
(6) Considering the principles of the ahupuaʻa system; and
(7) Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawaiʻi.

Discussion: A majority of the first responder agencies' facilities are currently located within areas that are subject to natural disasters and sea level rise impacts. The proposed FRTC would be located within a central location on the island of Oʻahu away from coastal areas and areas anticipated to be impacted by sea level rise and climate change. Relocating the facilities to the FRTC would meet the priorities, guidelines, and strategic actions identified in State and County plans to adapt and respond to the anticipated impacts of climate change and sea level rise.

§226-109 Climate change adaptation priority guidelines. Priority guidelines to prepare the State to address the impacts of climate change, including impacts to the areas of agriculture; conservation lands; coastal and nearshore marine areas; natural and cultural resources; education; energy; higher education; health; historic preservation; water resources; the built environment, such as housing, recreation, transportation; and the economy shall:
(1) Ensure that Hawaiʻi's people are educated, informed, and aware of the impacts climate change may have on their communities;

(2) Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies;
(3) Invest in continued monitoring and research of Hawai‘i's climate and the impacts of climate change on the State;
(4) Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change;
(5) Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change;
(6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments;
(7) Promote sector resilience in areas such as water, roads, airports, and public health, by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options;
(8) Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities;
(9) Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans; and
(10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy.

Discussion: Relocating the current first responder agencies' facilities to the FRTC would meet the priorities, guidelines, and strategic actions identified in State and County plans to adapt and respond to the anticipated impacts of climate change and sea level rise. Relocating the agencies away from coastal areas and areas anticipated to be impacted by sea level rise will support their operations and continuation of services provided to the residents of Hawai‘i, and promote their readiness to respond to natural disasters and climate change hazards.

4.2 State Land Use Classification

The Hawai‘i State Land Use Law, HRS Chapter 205, State Land Use Commission (SLUC), was adopted in 1961. The purpose of the law is to establish a framework of land use management and regulation in which all lands in the State are classified into one of four state land use districts: Urban, Rural, Agricultural, or Conservation.

The proposed project is in the State Land Use Agricultural and Urban District (see Figure 34). The project site includes a total of 104.605 acres within the Agricultural District; 11.605 acres within Parcel 057 and 93 acres in Parcel 039. Land uses within the Agricultural District is regulated by HRS §205-4.5, while land uses within the Urban District are regulated by

ordinances or regulations set forth by each county, which for the City and County of Honolulu is the ROH, Chapter 21, Land Use Ordinance (LUO). Since the proposed project does not qualify as a permissible use within the State Agricultural District, the project will require a State Land Use District Boundary Amendment to redesignate land within the Agricultural District to the Urban District.

Per HAR § 15-15-50 (c) (20), projects seeking boundary amendments must indicate that the development will be accomplished before ten years after the date of commission approval. Should the project not be completed within the ten-year timeframe, the project will require incremental State Land Use reclassification approval, starting with Parcel 057 and then the subsequent reclassification approval of Parcel 039.

HRS §205-17 includes the SLUC’s decision-making criteria that is used when reviewing any petition for reclassification of district boundaries. Below is a discussion on how the proposed project meets the criteria included in HRS §205-17.

(1) The extent to which the proposed reclassification conforms to the applicable goals, objectives, and policies of the Hawai‘i state plan and relates to the applicable priority guidelines of the Hawai‘i state plan and the adopted functional plans;

Discussion: A discussion on how the proposed project conforms to the applicable goals, objectives, and policies of the Hawai‘i State Plan is included in the previous Section 4.1. The following Sections 4.6 and 4.8 include a discussion on how the proposed project relates to the applicable priority guidelines of the The City and County of Honolulu General Plan and the Central O‘ahu Sustainable Communities Plan.

(2) The extent to which the proposed reclassification conforms to the applicable district standards;

Discussion: The proposed project would require a State Land Use Boundary Amendment to redesignate land within the State Land Use Agricultural District to the Urban District. Land uses within the Urban District are regulated by ordinances or regulations set forth by each county, which for the City and County of Honolulu is the ROH, Chapter 21, LUO. Under County zoning, the project site is located on land currently zoned as IMX-1 Industrial Mixed Use, AG-1 Restricted Agriculture, and F-1 Federal and Military (see Figure 35). As part of the proposed action, the project may apply for a zone change from the DPP to be in compliance with the LUO. Further consultation with the DPP will be needed to discuss the options and necessary steps for the project to be in compliance with the LUO.

(3) The impact of the proposed reclassification on the following areas of state concern:
(A) Preservation or maintenance of important natural systems or habitats;

Discussion: As discussed in Section 3.6, the project area does not provide suitable habitat for endangered Hawaiian waterbirds or endangered plant species that is State or Federally listed as threatened or endangered, candidate species for listing as endangered, or rare native Hawaiian plant species.

(B) Maintenance of valued cultural, historical, or natural resources;

Discussion: As discussed in Sections 3.15 and 3.16, the proposed project is not anticipated to result in an adverse impact to cultural, historical, or natural resources. The proposed project will follow the recommended conditions noted in the CIA prepared by Honua to protect Native Hawaiian rights, which includes but is not limited to, providing continued access to the project site as needed to conduct cultural practices such as plant gathering. In addition, the project will incorporate native plants, including lauhala, in landscaping to restore some of the native plants that were known to previously exist in the area.

HTDC is concomitantly requesting SHPD’s concurrence with the effect determination per HRS 6E-8 of “no historic properties affected” for the proposed actions on Parcel 057. As a safe measure to further avoid potential impacts to known and unknown historic properties, HTDC proposes to implement the following best management practices during construction:

4. Interim protective measures consisting of high visibility material such as orange web fencing will be installed along the project limits where proposed work is required within 500 ft of significant historic properties and will be maintained for the duration of work in that area. The locations of significant historic properties and minimum buffers will be illustrated on the project's construction plans.
5. An archaeological monitoring program consisting of on-call monitoring with periodic spot checks will be conducted for identification purposes and to ensure the efficacy of the avoidance and protective measures.
6. The Hawaiian Civic Club of Wahiawā will be notified in the unlikely event that human remains or traditional (pre-Contact) historic properties are inadvertently discovered during construction.

(C) Maintenance of other natural resources relevant to Hawai‘i's economy, including agricultural resources;

Discussion: As discussed in Section 3.14, although Parcel 039 and a portion of Parcel 057 is designated within the Agricultural District, the proposed project is not anticipated to result in an adverse impact to agricultural land and/or resources as the current conditions of the land is not suitable for growing commercial field crops due to poor soils, steep slopes, lack of irrigation water, and dense forest of mature trees. The project will not result in a loss of agricultural land

suitable for commercial field farming and will have no impact on the growth of crop farming in the state.

(D) Commitment of state funds and resources;

Discussion: Although the project would require a significant initial investment, the proposed FRTC would provide cost savings to first responder agencies in the long-term through the development of shared facilities and training areas. Having shared facilities and training areas would reduce the amount of money spent if the agencies were to develop these facilities on their own. In addition, a majority of the first responder agencies are either renting or leasing space from private entities or are spending money on make-shift facility improvements to maintain their current operations. Many of the first responder agencies require more space for their current and future operations and training, which would require the development of either new facilities and/or substantial improvements to aging facilities. The FRTC provides an opportunity for first responder agencies to develop facilities within one centralized location to meet their overlapping needs and goals, of which is currently not being fulfilled in their current facilities. In addition, relocating the first responder agencies to the FRTC would be a crucial first step in the State and County’s plans to respond to the anticipated impacts of climate change and sea level rise, as many of the current facilities are within coastal areas subject to sea level rise inundation and/or tsunamis.

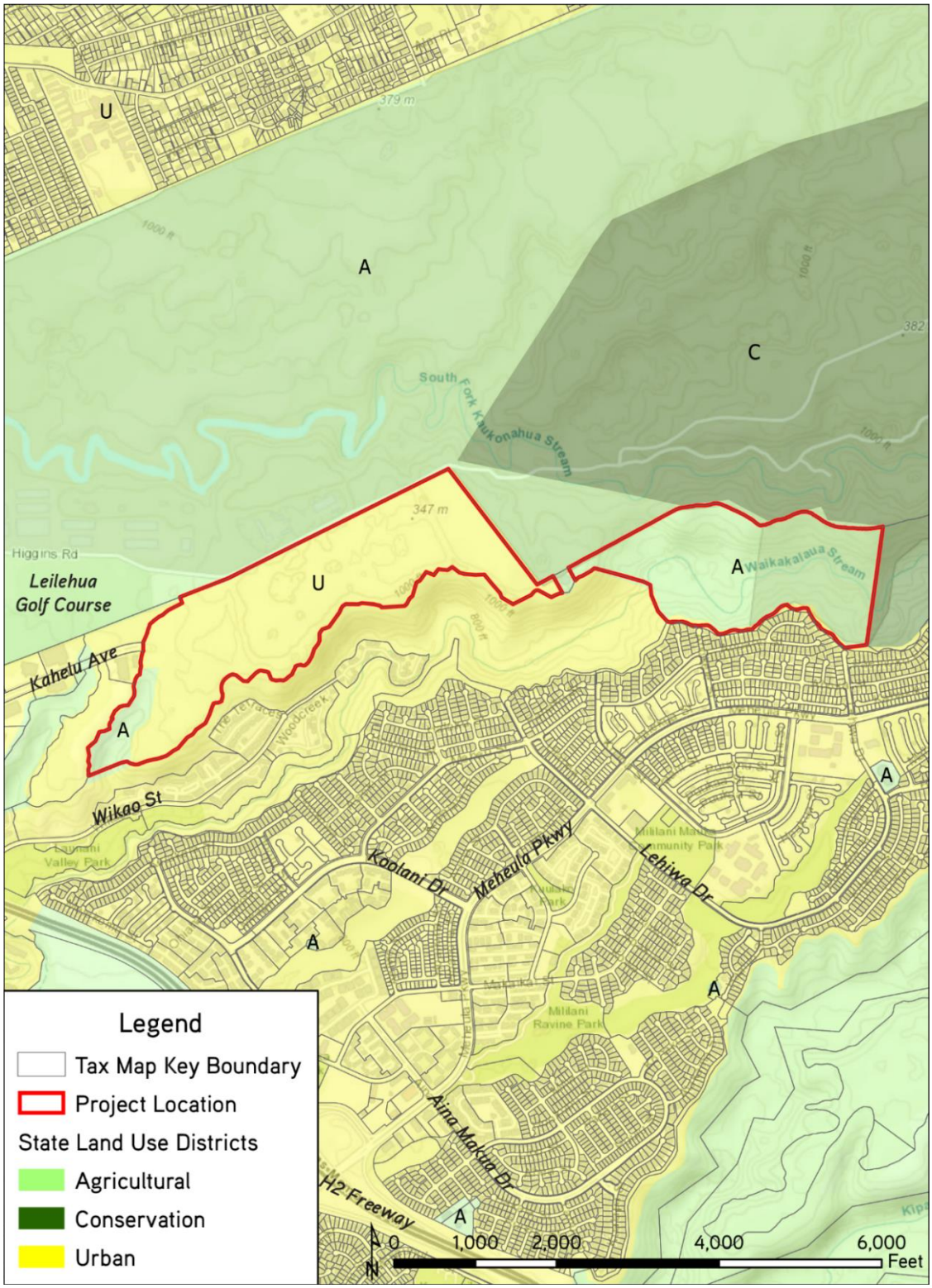
(E) Provision for employment opportunities and economic development; and

Discussion: The proposed FRTC would provide state-of-the-art training facilities that would increase the training capacity of the first responder agencies. The increase in training capacity and overall improvement of operations is anticipated to result in additional job opportunities within the agencies, as hiring and training processes will become more efficient and streamlined. In addition, the hotel/dormitory proposed to be at the project site would also provide new job opportunities and revenue to contribute to Hawai‘i’s economy.

(F) Provision for housing opportunities for all income groups, particularly the low, low-moderate, and gap groups;

Discussion: The FRTC proposes to include workforce housing to be developed by private developers. The workforce housing is anticipated to provide housing opportunities for those in the lower to moderate income groups, and will assist in meeting the current and future housing needs of the Central O‘ahu region and the island of O‘ahu.

Figure 34: State Land Use District Map



Source: State Land Use Commission

(4) The standards and criteria for the reclassification or rezoning of important agricultural lands in section 205-50;

Discussion: As noted in Section 3.3, the proposed project site has not been recommended by the DPP to be designated as IAL. The site is also not currently designated as IAL.

(5) The county general plan and all community, development, or community development plans adopted pursuant to the county general plan, as they relate to the land that is the subject of the reclassification petition; and

Discussion: Sections 4.6 and 4.8 include a discussion on how the proposed project relates to the applicable priority guidelines of the City and County of Honolulu General Plan and the Central O'ahu Sustainable Communities Plan.

(6) The representations and commitments made by the petitioner in securing a boundary change.

Discussion: The representations made in this Draft EIS are representative of the current project plans. The analysis and assessments discussed in the previous sections have been made based on what is known about the current plans and the existing conditions of the project site. As more details are determined or changed throughout the project, additional environmental review documentation in the form of EAs or a Supplemental EIS may be required if it is determined that significant changes have been made to the design that would cause new or additional actions or impacts that were not assessed in this Programmatic Draft EIS. As such, the applicable agencies will be consulted to update and modify any permits and/or land use approvals as deemed necessary.

4.3 Coastal Zone Management Act, HRS Chapter 205A

The State Coastal Zone Management (CZM) Program, as formalized in HRS Chapter 205A, establishes objectives and policies to "provide for the effective management, beneficial use, protection, and development of the coastal zone." The following are the objectives and policies of the CZM, and the relationship of the FRTC to the applicable considerations:

1) *Recreational Resources Objective: Provide coastal recreational opportunities accessible to the public*
   a) *Improve coordination and funding of coastal recreational 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) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;

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

iv) Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;

v) Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;

vi) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and

vii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of section 46-6.

Discussion: Access to the shoreline areas would remain unaffected by the proposed project as the project site is not located adjacent to or near the shoreline and the nearest coastline is ten miles away.

2) Historic Resources Objective: Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.
   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*

Discussion: The proposed project would not affect any natural or manmade historic and prehistoric resources in the coastal zone management area, as the project site is not located near the shoreline. In addition, a *Draft Archaeological Literature Review and Field Inspection Report* was prepared by CSH which documented the known archaeological and historical resources in the project area based on previous archaeological studies. CSH also conducted a 100% pedestrian survey of Parcel 057 and a brief pedestrian inspection of Parcel 039, and the findings are documented in Section 3.16. Further consultation with SHPD will be conducted to

identify the necessary processes to minimize or avoid any potential impacts, and if needed, determine the necessary mitigation commitments to minimize the impacts to cultural or historic resources within the project area. As a safe measure to avoid potential impacts to known and unknown historic properties, HTDC proposes to implement the following best management practices during construction:

- Interim protective measures consisting of high visibility material such as orange web fencing will be installed along the project limits where proposed work is required within 500 ft of significant historic properties and will be maintained for the duration of work in that area. The locations of significant historic properties and minimum buffers will be illustrated on the project's construction plans.
- An archaeological monitoring program consisting of on-call monitoring with periodic spot checks will be conducted for identification purposes and to ensure the efficacy of the avoidance and protective measures.
- The Hawaiian Civic Club of Wahiawā will be notified in the unlikely event that human remains or traditional (pre-Contact) historic properties are inadvertently discovered during construction.

3) *Scenic and Open Space Resources Objective: Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.*
   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 that are not coastal dependent to locate in inland areas.*

Discussion: Coastal scenic and open space resources will not be impacted by the proposed project. The FRTC will be located on undeveloped land and will not impact any natural landforms in the area.

4) *Coastal Ecosystems Objective: Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.*
   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 that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.*

Discussion: The project will not impact coastal ecosystems as it will be located inland and away from the coastline.

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

Discussion: The FRTC is not proposed to be near the coastal areas and would not affect coastal development necessary to the State's economy.

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

Discussion: The development of the FRTC would support this objective, as it would locate existing first responder agencies' facilities away from areas that are within the tsunami, storm wave, and flood inundation zones. A majority of the first responder agencies' facilities are currently located in areas that are vulnerable to coastal hazards, including sea-level rise impacts. The FRTC is in Central O‘ahu approximately 10 miles from the nearest shoreline and is outside the tsunami inundation zone and the 3.2 ft. SLR-XA.

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

Discussion: While the FRTC will not be located near any coastal resources, and thus will not be prone to any coastal hazards, the project will still conduct an extensive public outreach process to ensure that Federal, State, and County agencies, elected officials, nearby landowners, community groups and organizations, and the community are aware of the project and are able to provide their feedback. All public outreach and consultation efforts are documented in Section 10.0 of this Draft EIS.

8) *Public Participation Objective: Stimulate public awareness, education, and participation in coastal management.*
   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.*

Discussion: As mentioned in the previous discussion, although the project site is not located near any coastal resources and will not be subject to coastal management issues, extensive public outreach efforts have been, and will continue to be made to ensure that project information is disseminated and that feedback from the community is documented and addressed throughout the project process. All public outreach and consultation efforts, along with feedback received, are documented in Section 10.0 of this Draft EIS.

9) *Beach Protection Objective: Protect beaches for public use and recreation.*
   a) *Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and 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; and*

c) *Minimize the construction of public erosion-protection structures seaward of the shoreline*.

Discussion: The FRTC is not proposed to be located adjacent to the coast; therefore, it will not have any impact on shoreline activities and will not adversely impact any beaches.

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

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. [L 1977, c 188, pt of §3; am L 1993, c 258, §1; am L 1994, c 3, §1; am L 1995, c 104, §5; am L 2001, c 169, §3]

Discussion: The development of the FRTC would not adversely impact ocean resources and would not affect marine and coastal resources as it is not proposed to be located adjacent to or in the vicinity of these resources.

4.4 Hawai‘i 2050 Sustainability Plan

The *Hawai‘i 2050 Sustainability Plan* serves as the State’s sustainability and climate strategic action plan that delineates five goals toward a sustainable Hawai‘i, accompanied by strategic actions for implementation and indicators to measure success or failure. The State of Hawai‘i, Office of Planning and Sustainable Development is currently updating the *Hawai‘i 2050 Sustainability Plan* to recommend sustainability and climate change actions for 2020 to 2030. The proposed project supports the following goal and strategic actions identified in the *Hawai‘i 2050 Sustainability Plan*.

Goal 3: Sustainable Environment and Natural Resources
Strategic Action #6: Research and strengthen management initiatives to respond to rising sea levels, coastal hazards, erosion, and other natural hazards.

Discussion: The development of the FRTC would be a major first step for first responder agencies at the Federal, State, and County level to address the impending impacts of sea-level

rise to government facilities on the island of O‘ahu. A majority of the first responder agencies' facilities are located along the coastlines and/or within tsunami inundation zones, coastal flood zones, and the 3.2 ft. SLR-XA. Relocating the agencies' facilities to the FRTC would put these facilities out of areas at high risk of being adversely impacted by rising sea levels, coastal hazards, erosion, and other natural hazards.

4.5 State Historic Preservation

The State Historic Preservation Program, codified by HRS Chapter 6E, is administered by the DLNR SHPD. The program and DLNR SHPD work to provide leadership in preserving, restoring, and maintaining historic and cultural property. Per HRS §6E-08, prior to the commencement of any State agency project that may affect historic property, the agency shall allow the SHPD an opportunity for review of the effect of the proposed project on historic properties, aviation artifacts, or burial sites, especially those listed on the Hawai‘i Register of Historic Places. Section 3.16 of this Draft EIS includes a discussion on the potential impacts to historic properties and mitigation measures for the proposed project. HTDC is concomitantly requesting SHPD's concurrence with the effect determination per HRS 6E-8 of "no historic properties affected" for the proposed actions located on Parcel 057.

4.6 City and County of Honolulu – General Plan

The General Plan for the City and County of Honolulu was originally adopted in 1977 and was most recently amended in 2002. A 2017 revised version is currently in review by the City Council. The General Plan is a statement of the long-range physical, social, cultural, economic, environmental, and design objectives for the welfare and prosperity of the people of O‘ahu. It is intended to guide land use and development decisions, and to influence actions in eleven areas of concern including the following: population, economy, natural environment and resource stewardship, housing and communities, transportation and utilities, energy, physical development and urban design, public safety and community resilience, health and education, culture and recreation, and government operations and fiscal management. The FRTC is consistent with the following relevant sections and subsequent objectives and policies of the 2017 revised General Plan.

- *Population*
  - *Objective B: To establish a pattern of population distribution that will allow the people of O‘ahu to live, work and play in harmony.*
    - *Policy 2: Encourage development within the secondary urban center at Kapolei and the ‘Ewa and Central O‘ahu urban-fringe areas to relieve developmental pressures in the remaining urban-fringe and rural areas and to meet housing needs not readily provided in the primary urban center.*

Discussion: The FRTC proposes to set aside areas for private development that will include workforce housing and business mixed use development, which will encourage a live, work, and play environment within the project area. As noted in Section 3.11, the resident population of Central O'ahu has been steadily increasing over the past nine years. If current population trends continue, this region could expect to have as many as 53,960 households by 2045. The proposed project would provide opportunities for private entities to develop workforce housing, which would support the anticipated increase in population within the region and support the objective to relieve developmental pressures in the remaining urban-fringe and rural areas and meet O‘ahu’s overall housing needs.

- *Economy*
  - *Objective B: To maintain a successful visitor industry that creates meaningful employment, enhances quality of life, and celebrates our unique sense of place, natural beauty, Native Hawaiian culture, and multi-cultural heritage.*
    - *Policy 11: Consider small-scale community-oriented visitor accommodations in non-resort areas with attention to community input, compatibility of uses, infrastructure adequacy, and the ability to enforce effectively.*

Discussion: The FRTC proposes to set aside areas for private development that will include a hotel/dormitory accommodation for the visitors and guests of nearby residents, and for the government/business-related guests of the MTP Phase I businesses, Schofield Barracks, Wheeler Army Airfield, and the project site. There are currently no overnight accommodations available to civilians in the Mililani or Wahiawā region. The demand for overnight accommodations from the FRTC will come from the first responder trainees and recruits from all islands and potentially from the Pacific Region.

- *Natural Environment and Resource Stewardship*
  - *Objective A: To protect and preserve the natural environment.*
    - *Policy 12: Plan and prepare for the impacts of climate change on the natural environment, including strategies of adaptation.*

Discussion: The development of the FRTC will allow first responder agencies and the government to adapt to the impending impacts of climate change and sea-level rise by relocating their facilities to inland areas outside of tsunami, coastal flood, and sea-level rise inundation zones.

- *Housing and Communities*
  - *Objective A: To ensure a balanced mix of housing opportunities and choices for all residents at prices they can afford.*
    - *Policy 13: Encourage the production and maintenance of affordable rental housing, ‘ohana housing, and accessory dwelling units.*

Discussion: The FRTC proposes to set aside areas for private development that will include workforce housing with the intent to provide affordable rental housing to the employees of the first responder agencies and to community members and residents. The restrictions and criteria to qualify for the workforce housing will be determined during the later phases of development.

- *Physical Development and Urban Design*
  - *Objective A: To coordinate changes in the physical environment of O'ahu to ensure that all new developments are timely, well-designed, and appropriate for the areas in which they will be located.*
    - *Policy 11: Encourage siting and design solutions that seek to reduce exposure to natural hazards, including those related to climate change and sea level rise.*
    - *Policy 13: Promote opportunities for the community to participate meaningfully in planning and development processes, including new forms of communication and social media.*
  - *Objective B: To plan and prepare for the long-term impacts of climate change.*
    - *Policy 1: Integrate climate change adaptation into the planning, design, and construction of all significant improvements to and development of the built environment.*
    - *Policy 3: Prepare for the anticipated impacts of sea level rise on existing communities and facilities through remediation, adaptation, and other measures.*

Discussion: The development of the FRTC will allow first responder agencies and the government to adapt to the impending impacts of climate change and sea-level rise by relocating their existing facilities that are in coastal areas, to inland areas outside of tsunami, coastal flood, and sea-level rise inundation zones. Public outreach has been conducted during the Draft EIS process and is summarized in Section 10.0. Public outreach efforts comprised of virtual forms of engagement that included a virtual open house, project website, and virtual meetings.

- *Public Safety and Community Resilience*
  - *Objective A: To prevent and control crime and maintain public order.*
    - *Policy 3: Provide adequate training, staffing, and support for City and County law enforcement agencies.*
  - *Objective B: To protect residents and visitors and their property against natural disasters and other emergencies, traffic and fire hazards, and unsafe conditions.*
    - *Policy 2: Require all developments in areas subject to floods and tsunamis, and coastal erosion to be located and constructed in a manner*

that will not create any health or safety hazards or cause harm to natural and public resources.

- *Policy 4: Collaborate with State and Federal agencies to provide emergency warnings, protection, mitigation, response, and recovery, during and after major emergencies such as tsunamis, hurricanes, and other high-hazard events.*
- *Policy 5: Cooperate with State and Federal agencies to provide protection from war, civil disruptions, and other major disturbances.*
- *Policy 7: Provide adequate resources to effectively prepare for and respond to natural and manmade threats to public safety, property, and the environment.*
- *Policy 9: Plan for the impacts of climate change and sea level rise on public safety, in order to minimize potential future hazards.*

Discussion: The development of the FRTC will allow first responder agencies to relocate their facilities away from coastal areas that are at risk of being inundated by tsunamis, coastal floods, sea-level rise, and other coastal hazards. In addition, the development of the FRTC will address the need for upgraded facilities, including office spaces and training facilities, and more space for existing employees, trainees, and overflow of employees during disaster response scenarios. The proposed state-of-the-art training facilities at the FRTC will allow first responder agencies to provide the proper training to their recruits and increase their training capacity. All of the proposed facilities at the FRTC will provide the adequate resources for the agencies to effectively collaborate and prepare for, and respond to, natural and manmade threats to the island of O'ahu and the State.

- *Health and Education*
  - *Objective A: To protect the health and well-being of residents and visitors.*
    - *Policy 2: Provide prompt and adequate ambulance and first-aid services in all areas of O'ahu.*

Discussion: The FRTC proposes to include a regional ambulance station, which will provide operational capacity for EMS to better serve the communities of Mililani and Wahiawā.

- *Government Operations and Fiscal Management*
  - *Objective A: To promote increased efficiency, effectiveness, and responsiveness in the provision of government services by the City and County of Honolulu.*
    - *Policy 1: Maintain City and County government services at the level necessary to be effective.*
    - *Policy 2: Promote consolidation of State and City and County functions whenever more efficient and effective delivery of government programs and services can be achieved.*

- *Policy 3: Ensure that government attitudes, actions, and services are sensitive to community needs and concerns.*
- *Policy 5: Broaden the use of technology to achieve greater efficiency and accountability in government operations.*

Discussion: The FRTC proposes to develop state-of-the-art facilities that will meet the needs and priorities of first responder agencies to effectively carry out their services and to achieve greater efficiency in their processes. This will also allow the agencies to properly train their recruits on island instead of sending them to the mainland, which will save money spent on travel and accommodation costs. The campus will include shared facilities that will meet the overlapping needs of the agencies, which will reduce the cost and space for the agencies to develop these facilities on their own. Locating multiple first responder agencies from the Federal, State, and County level on one campus will also provide opportunities for cross-collaboration and will increase the level of service that can be provided to the island of O‘ahu and the State.

4.7 Land Use Ordinance

The City and County of Honolulu LUO regulates land use in accordance with adopted land use policies, which includes the General Plan and Development Plans or Sustainable Communities Plans. The provisions are also referred to as the “zoning ordinance.” The project site is located on land in the IMX-1 Industrial Mixed Use, AG-1 Restricted Agriculture, and F-1 Federal and Military zones (see Figure 35).

The main core and Parcel 039 of the FRTC will include uses and facilities that meet the LUO’s definition of “public uses and structures”, as defined in the ROH §21-10.1, which states that “public uses and structures means uses conducted by or structures owned or managed by the federal government, the State of Hawai‘i or the city to fulfill a governmental function, activity or service for public benefit and in accordance with public policy. Excluded are uses which are not purely a function, activity or service of government and structures leased by government to private entrepreneurs or to nonprofit organizations. Typical public uses and structures include: libraries, base yards, satellite city halls, public schools and post offices.” The accessory uses at the FRTC, which include the workforce housing, business mixed-use, and the hotel/dormitory facility, would be developed by a private entity, and thus may not qualify as a public use or structure. Below is a preliminary assessment that identifies how the uses proposed at the FRTC may be in compliance with the multiple zoning districts within the project area. This preliminary assessment is based on the proposed master plan and the project details known at the time of publication of this Draft EIS.

IMX-1 Industrial Mixed Use

A small portion of Parcel 057 located near the proposed entrance to the FRTC is within the IMX-1 Industrial Mixed Use zoning district. The portion of the FRTC located in the IMX-1 zone would

consist of the access road, regional ambulance station, and the well and appurtenant facilities. The access road and regional ambulance station would qualify as "public uses and structures", while the water well and appurtenant facilities may qualify as "utility installations, type A". Per Table 21-3 Master Use Table in the LUO, "public uses and structures" are permitted within all zoning districts, while "utility installations, type A" within the IMX-1 zone are permitted uses subject to standards in Article 5.

AG-1 Restricted Agriculture

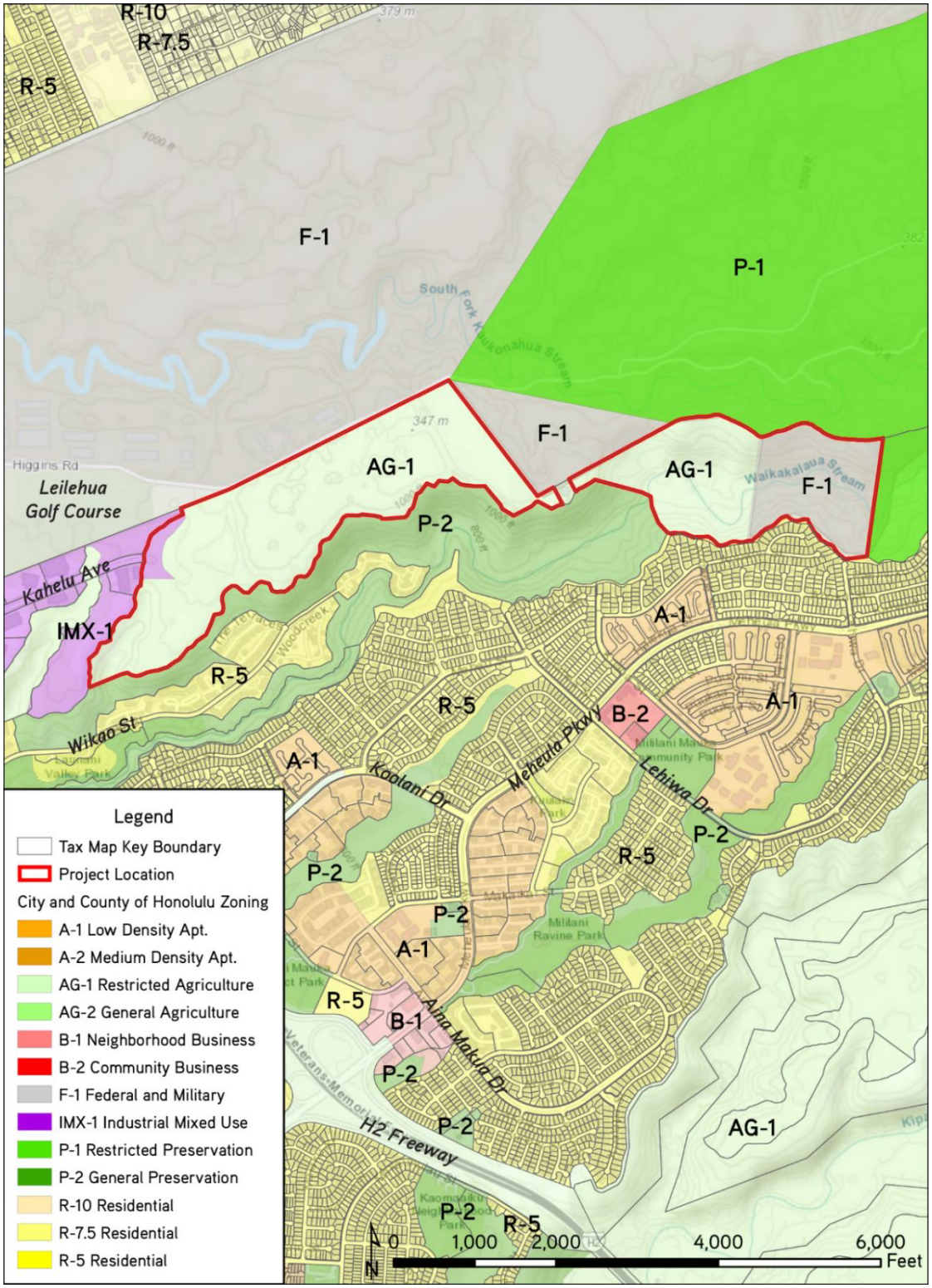
A majority of Parcel 057 and half of Parcel 039 is within the AG-1 Restricted Agriculture zoning district. The portion of the FRTC located in the AG-1 zone would consist of the access road, and uses such as office, warehouse, parking structure, hotel/dormitory, workforce housing, business mixed use, outdoor training area, and community center. All of the proposed uses would qualify as "public uses and structures", with the exception of the hotel/dormitory, workforce housing, and business mixed use. The hotel/dormitory, workforce housing, and business mixed use facilities are proposed to be developed by private entities. Based on Table 21-3 in the LUO, these proposed uses would not be permitted within the AG-1 zone.

F-1 Federal and Military

Approximately half of Parcel 039 is located within the F-1 Federal and Military zoning district. Per ROH §21-3.40(d), should lands be removed from federal jurisdiction, all uses, structures, and development standards shall be as specified for the P-2 General Preservation District. As the HTDC owns Parcel 039, the P-2 development standards should apply. The portion of the FRTC located in the P-2 zone would consist of the HIARNG search and rescue training area, which would qualify as a public use.

Based on the preliminary assessment, the project may require zone changes from the DPP for portions of the project that would not be in compliance with the current zoning district's permitted uses and development standards. Consultation with the DPP to determine the best approach to bring the project in compliance with the LUO will continue as the project develops and more details become known. Initial consultation and discussions with the DPP are summarized in Section 10.2.

Figure 35: City and County of Honolulu Zoning Map



Source: City and County of Honolulu, DPP

4.8 Central O‘ahu Sustainable Communities Plan

The *Central O‘ahu Sustainable Communities Plan* (CO SCP) is one of eight community-oriented plans that is intended to guide public policy, investment, and decision-making in response to the specific conditions and community values of each region. The most recent version of the CO SCP was adopted on March 30, 2021, and it identifies the FRTC within the Urban Land Use Map (see Figure 36). The proposed action will include an amendment to the Community Growth Boundary and land use designation to properly include the FRTC.

4.9 Special Management Area

The City and County of Honolulu has designated the shoreline and certain inland areas of O‘ahu as being within the Special Management Area (SMA). The SMA areas are designated sensitive environments that are protected in accordance with the State’s CZM policies, as set forth in ROH Chapter 25. The project site is not located within the SMA, as it is approximately 10-miles from the nearest coastline.

4.10 Ola: O‘ahu Resilience Strategy

The O‘ahu Resilience Strategy, prepared by the City and County of Honolulu’s Office of Climate Change, Sustainability, and Resiliency, identifies 44 actions that directly address the challenge of long-term affordability and the impacts of climate change. While the FRTC does not directly address the listed actions, it does provide support for the lead and implementing partners to fulfill the general goals identified in the following pillars.

- Pillar I. Remaining Rooted
    - Goal 1: Supporting Affordable Housing Development

Discussion: The FRTC will include areas for private development that will include workforce housing, which will help to address the need for housing in the Central O‘ahu region and the island of O‘ahu. The development of the workforce housing will support a live, work, play environment at the FRTC and in the surrounding community.

- Pillar II. Bouncing Forward
    - Goal 1: Pre-Disaster Preparation
    - Goal 2: Effective Disaster Response
    - Goal 3: Successful Disaster Recovery

Discussion: The purpose of developing the FRTC is to create one campus that will meet the operational and training needs of Federal, State, and County first responder agencies to provide their services to the island and the State, and to create greater efficiencies in our State’s response to natural and manmade disasters and scenarios. Locating multiple agencies on one campus will create an environment conducive to cross-collaboration and will also allow for

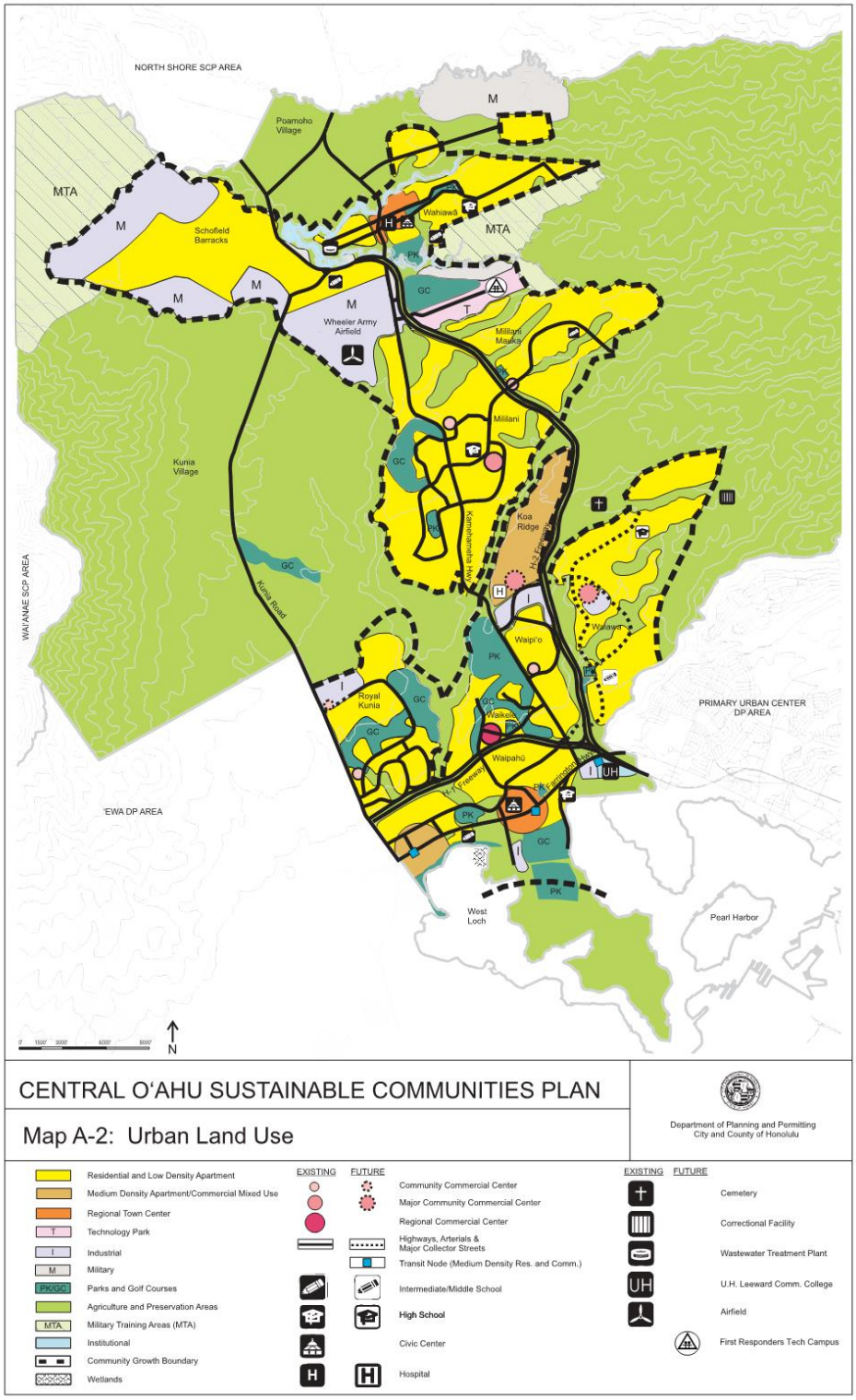
innovation of new technologies or processes to increase our State’s disaster response and recovery.

4.11 Important Agricultural Lands (IAL) on O‘ahu

IAL are defined as lands that are 1) capable of producing sustained high agricultural yields when treated and managed according to accepted farming methods and technology; 2) contribute to the State’s economic base and produce agricultural commodities for export or local consumption; or 3) are needed to promote the expansion of agricultural activities and income for the future, even if currently not in production.

The SLUC is responsible for designating land in Hawai‘i as IAL, and they are currently in the process of reviewing the recommendations for O‘ahu parcels to be designated as IAL. Based on the IAL Recommendations Map prepared by the DPP that was submitted to the SLUC, the FRTC project site is not within lands recommended to be designated as IAL. This further reiterates the discussions in Sections 3.3 and 3.14 that although a portion of Parcel 057 and all of Parcel 039 are within the State Agricultural District, the land is not suitable for commercial agriculture production.

Figure 36: CO SCP Urban Land Use Map



Source: DPP

5.0 PROJECT ALTERNATIVES

In accordance with the requirements of HAR, Section 200.1-24, this section describes alternatives to the Proposed Action (which is described in Section 2.0) to include the "No Action" alternative, a delayed action alternative, site development alternatives, as well as alternative locations evaluated for the proposed action.

5.1 No-Action Alternative

Under the No-Action alternative, the FRTC would not be built, and the location of first responder agencies' headquarters, offices, and training facilities will remain the same until individual action is taken by each agency. Without the proposed FRTC, the cost, time, and effort necessary to find the appropriate location to build individual facilities for each agency will be far greater than that which will be spent to build the facilities on one shared campus. The existing facilities will continue to age and/or become overcrowded and will continue to be vulnerable to the effects of sea level rise, climate change impacts, and other natural hazards. In addition, agencies will continue to send their trainees to mainland facilities at high costs and with limited exposure due to the lack of facilities and space required to train within the State.

Additionally, there would be no positive benefit of new employment opportunities, including new jobs created through construction and through the operational employment to support the campus and its accessory uses.

5.2 Delayed Action

The Delayed Action alternative involves postponing design and construction of the FRTC to a date in the future. The impact of this alternative is like the No-Action alternative, as the agencies will continue to experience aging and deteriorating facilities that are overcrowded and will continue to incur high costs to send trainees to mainland facilities. In the long-term, delaying construction to a future date could potentially lead to more money spent on short-term solutions to address the aging and overcrowded facilities. In addition, construction and material costs would also continue to rise due to inflation, making the construction of the FRTC more difficult to achieve.

Designing a campus to serve nineteen (19) different Federal, State, and County first responder agencies involves a significant effort including coordination, time, and commitment from all stakeholders involved. Should the construction of the FRTC be postponed, it is likely that the design and coordination process would need to be reconfirmed to update the needs and interest of each agency. This would require more time and money spent for the construction of the FRTC to be achieved.

5.3 Alternative Site Layout Concepts

Various site layout alternatives for the Proposed Action were considered during the charrette held in 2021, summarized in Section 10.1 of this Programmatic Draft EIS. This included alternative site layout concepts developed through a series of collaborative workshops with large and small groups to discuss the origins, goals, concepts, and the inspiration behind the First Responder Technology Campus. As a starting point, the Design Team used the UHM-CDC's master plan and site layout from 2016. Although the number of agencies had nearly doubled, and the total square footage requirements had significantly increased for that reason, there was merit in evaluating the previous conceptual site layout.

The revised Master Plan serves to address both the origins of the UHM-CDC's conceptual site layout, the increase in square footage requirements and the corresponding parking, and the significant increase in warehousing requirements and the safety needs to separate the heavy vehicular traffic serving the warehousing and the campus's inner pedestrian core between the office buildings and training academies. The Revised Master Plan evolved during the Charrette into a double ring network of roadways to achieve the original design scheme conceptualized by the UHM-CDC to create a "campus" setting. The outer ring served to predominantly isolate the heavy large vehicle traffic to the perimeter of the Campus Core and minimize pedestrian cross traffic. The inner ring served to best cater to passenger vehicles, delivery vans and bicycles. While the pedestrian promenade serves to link all Campus Core buildings together and to promote interaction between agencies. The centralized parking served to efficiently utilize the land by creating maximum use of the parcels to be leased by each agency from the landowner (HTDC).

5.4 Alternative Sites

As a part of the project, an Alternative Site Analysis Report was prepared by Colliers Hawai‘i Research and Consulting ("Colliers") to assess other properties on the island of O‘ahu that could potentially be an alternate location for the FRTC project site (see Appendix L). Colliers started the site selection process by compiling a list of government-owned properties larger than 100 acres in size. Alternative sites for the FRTC would ideally be owned/controlled by a State or City governmental agency to avoid costly acquisition costs, restrictive deeds, or potential environmental/cultural challenges. To narrow down the potential sites, a criteria was created based on the first responder agencies' needs relating to centralized location, good freeway access, proximity to military bases and access to business amenities. Additionally, the criteria included development concerns such as the site's topography, current entitlements, flood zone/climate change impacts, and population base and workforce. The list was narrowed down to the top six properties and a 1-2-3 mile competitive market area surrounding each of the properties was analyzed for demographic, psychographic (defined as "*the study of consumers based on their activities, interests, and opinions"*) and business concentration factors. Each of

the properties were scored on a range from 1 – very unfavorable, 2 – moderately unfavorable, 3 – neutral, 4 – moderately favorable, and 5 – very favorable.

The initial property search list generated 54 vacant and undeveloped properties that were government-owned and were greater than 100 acres in size. Properties from this list were removed because they were being used for airports, harbors, or have cultural/historical significance. Sites with preservation zoning within the jurisdiction of the DOFAW were also excluded. A majority of the properties were large undeveloped parcels under the control of the State's Agribusiness Division and could be considered prime agricultural lands; these sites were also removed from the list.

The top six properties chosen range in size from 141.37 acres to 243.97 acres, and include two Agribusiness Corporation properties, DLNR land near Kualakai Parkway and Farrington Highway, UH West O'ahu lands that are not being used for the campus, and DHHL land at the former Barber's Point. The TMK parcel number and description for each site is listed in Table 47.

Table 47: Top Properties List

Tax Map Key	Ownership	Location	Total Acreage	State Land Use District/CCH Zoning	Topography	Access
6-4-004:011	DLNR	Wahiawa North	207.87	Agriculture/ AG-1	Varied	Limited
7-1-001:005	DLNR	Wahiawa West	236.23	Agriculture/ AG-1	Flat	Kamehameha Highway Access
9-1-016:008; 9-1-018:008 & 014; and 9-1-017:097	DLNR	Kapolei	168.09	Urban/AG-1	Flat	Kualakai Parkway and Farrington Highway
9-5-002:057 & 039	HTDC	Mililani Technology Park	243.97	AG-1	Varied	H-1 Freeway and Kahelu Avenue
9-1-016:222 & 223	UH West O'ahu	Kapolei	141.37	BMX-3	Flat	Kualakai Parkway
9-1-013:061	DHHL	Barber's Point	139.3	F-1	Flat	Saratoga Avenue

Source: Colliers

DLNR Wahiawa North (TMK 6-4-004:011)
This site is located north of Wahiawa on the outskirts of Whitmore Village. Currently, the site is planned for development into an agricultural hub for food cultivation, processing and manufacturing. The site has limited road accessibility and no existing infrastructure. If the FRTC

were to be developed at this site, it is anticipated that the entitlement process for land use approvals would be lengthy as the land is currently zoned for agriculture.

DLNR Wahiawa West (TMK 7-1-001:005)
This site is located west of Whitmore Village on lands designated in the State Land Use Agriculture District. The parcel is flat in topography and could be accessed on the south via Whitmore Avenue, and on the west and north via Kamehameha Highway. There is currently no infrastructure on the site. Similar to the DLNR Wahiawa North parcel, the entitlement process would be lengthy as the land is currently zoned for agriculture.

DLNR East Kapolei (TMKs 9-1-016:008; 9-1-018:008 & 014; and 9-1-017:097)
This site consists of four separate parcels near the intersection of Kualakai Parkway and Farrington Highway. Currently, Parcel 097 is being planned for development into a parking lot for a Kapolei light rail station. DLNR is currently conducting an EIS study that will seek LUC approvals for an industrial, commercial, and residential rental development on the other parcels. Based on the Hoopili residential community expansion, it is anticipated that infrastructure will be added and able to service a portion of these parcels. While the combined total acreage of all four parcels is 168 acres, the separation of the parcels could prove to be challenging to create a unified campus environment for the FRTC.

UH West O‘ahu (TMKs 9-1-016:222 & 223)
This site is a part of the over 500 acres of land associated with the development of UH West O‘ahu’s campus. A long-range development plan is currently being formulated, and it is anticipated that these parcels will be identified as future leasehold development opportunities for outside developers. There are currently no freeway offramps planned, and future infrastructure is anticipated to correspond to UH West O‘ahu campus expansion. In addition, this site is surrounded by residential developments, which could be problematic for conducting FRTC training activities.

DHHL Barbers Point (TMK 9-1-013:061)
This site is located on DHHL lands at the southwestern-most portion of the former Barber’s Point airfield. The site is partially built out with Pasha Corporation leasing out a significant portion of the site for storage use. DHHL would require lease payments for the use of their land in order to subsidize residential development costs for its constituents and would not likely provide financial subsidies for the FRTC. In addition, the site is within 0.3 miles of the coastline and is within the extreme tsunami evacuation zone.

Summary of Demographics, Psychographics, and Business Data
The following is a summary of the demographic and psychographic characteristics that are considered the most attractive for the FRTC site:

- The Wahiawa and Barber’s Point sites are the least populated. The UH West O‘ahu and DLNR East Kapolei sites are the heaviest populated areas.
- The UH West O‘ahu, Barber’s Point, and DLNR East Kapolei sites reported the highest median and household incomes. The Wahiawa North and West sites have the lowest household incomes reported.
- Within a 3-mile radius, the Wahiawa North and West sites reported the lowest median age. The current proposed FRTC site posted the highest median age.
- The Wahiawa agricultural parcels corresponded to the military proximity (14A) psychographic segmentation, which consists of married-couple families that are part of the armed forces. The UH West O‘ahu, DLNR East Kapolei, and the current FRTC site correlates to upscale suburban spending habits of both the Pacific Heights (2C) and Enterprising Professionals (2D) segments. The Pacific Heights psychographic segmentation consists of upscale neighborhoods distinguished by married-couple families with a high percentage of multiracial populations, while the Enterprising Professionals segment consists of well-educated individuals in the science, technology, engineering, and mathematics (STEM) occupations.

Colliers used business data from Infogroup and ESRI, which track the number and types of businesses located within a 1 – 3-mile geographic region of each alternative site. Based on the needs expressed by the agencies proposed to be at the FRTC, the most desirous development site would need a complement of available business and retail services and amenities. Within a 1-mile radius, the current proposed site for the FRTC had the heaviest concentration of financial, retail and service sector businesses. Within a 3-mile radius, the UH West O‘ahu, DLNR East Kapolei, and the DHHL Barber’s Point locations were the most densely populated with all business types. The rural Wahiawa North and West sites provided the fewest business services and amenities.

Alternative Site Findings and Recommendations

Based on the site selection criteria and findings, the current proposed site at the MTP was the highest scoring amongst all six of the possible sites for the FRTC due to its proximity to Wheeler Airfield, heavy concentration of business and retail services in MTP and Mililani, and easy access to Kamehameha Highway and the H-2 Freeway, all of which allow the site to capitalize on its central O‘ahu location. In addition, Parcel 039 provides a unique area for search and rescue training with the undeveloped and steep terrain, which are not found in any of the alternative sites. The site selection criteria and score for each site is listed in Table 48.

Table 48: FRTC Site Selection Matrix

Site Selection Criteria	DLNR Wahiawa North	DLNR Wahiawa West	DLNR East Kapolei	UH West O'ahu	DHHL Barber's Point	HTDC Mililani Tech Park Current Site (Parcels 057 and 039)
Is the property owned by the State of Hawai'i?	5	5	5	5	5	5
Is property size large enough to address our requirements?	5	5	5	5	5	5
Is it in a centralized location to service the entire island?	5	5	3	3	2	5
Does topography allow for easy development?	3	5	5	5	5	5
Is the site located outside coastal hazard areas?	5	5	5	5	1	5
Does the site need new entitlements?	1	1	1	2	2	1
Is it within proximity to military facilities?	5	5	2	2	3	5
Is there easy freeway accessibility?	1	3	4	4	1	4
Is the site located within proximity to business services and amenities?	1	1	4	4	3	5
Is the site located within proximity to a population base and workforce?	2	2	4	4	3	4
Are there buffer zones to accommodate for noise and smoke?	3	3	1	1	2	4
Is the site relatively isolated from residential areas?	3	3	1	1	3	3
Can search and rescue activities be conducted at the site?	2	2	1	1	1	5
Site Selection Matrix Score	**41**	**45**	**41**	**42**	**36**	**56**

Source: Colliers

6.0 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF HUMANITY'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Pursuant to HAR 11-200.1-24, this section discusses the relationship between the proposed action's short-term uses of the environment and how those uses may compromise or enhance the long-term productivity of that environment. The discussion includes an analysis of the potential economic, social, and cultural benefits anticipated from the proposed action against the extent to which the proposed action forecloses future options, narrows the range of beneficial uses of the environment, or poses long-term risks to health or safety.

6.1 Short-Term Uses and Long-Term Productivity

The short-term uses associated with the proposed action involve the temporary construction anticipated to occur in multiple phases over a period of fifteen years or longer. The impacts associated with use of resources during construction would be temporary and are not anticipated to have a significant adverse impact on the project's relationship with the surrounding environment. Construction activities will temporarily impact ambient noise levels, air quality, and traffic within the surrounding area. Short-term uses and long-term productivity of water resources, flora and fauna, and health, safety, and well-being are also summarized below.

Water Resources: Currently the project site does not have any existing water infrastructure for the planned FRTC uses. The project design will need to identify source water and deliver that water to the campus. The project team has preliminarily estimated that the estimated water demands at the campus will require a 0.50 MG water tank and the project will likely need to include the identification of a new water source. The site design will include a new water well and construction of a new water reservoir tank and all the associated infrastructure to provide potable water to the site.

Minimal consumption of surface or underlying groundwater is required to construct the Proposed Action. The Proposed Action would improve upon the condition of existing site drainage and wastewater infrastructure from a resiliency standpoint, which would improve the long-term viability of surface and groundwater resources. The grading of the project site will be in conformance with the City & County of Honolulu Grading Ordinance. As the disturbed area will be greater than 1 acre, a National Pollution Discharge Elimination System (NPDES) Permit will be required. The contractor will submit a site-specific construction BMP Plan to the State of Hawai'i Department of Health for approval before grading commences. Construction BMPs could include a combination of stabilized construction egress, dust control, filter socks, drain

inlet protection, and others. Erosion and dust control will adhere to the Erosion Control Plan approved by the City & County of Honolulu.

Flora and Fauna: A significant amount of clearing, grubbing and grading will be required for the majority of the west campus which consists of fallow agricultural lands and dense forest environment. Development within the east campus will involve minimal grading which is aimed to avoid disturbing the steep terrain of Waikakalaua Gulch located at the southwest end of the east campus. The total excavation of the project site is anticipated to be approximately 240,560 cubic yards, and the anticipated total embankment is approximately 265,200 cubic yards, giving a total net embankment of 24,640 cubic yards.

No state or federally listed threatened, endangered, or candidates for listing plant species, and no rare native Hawaiian plant species, were observed in the accessible parts of the project site. A total of 84 plant species were observed in the project area; 76 are non-native species, six are native species, and two are Polynesian introductions. The native species observed on the project site are widespread on Oʻahu as well as elsewhere in Hawaiʻi. In addition, since a majority of the plant species observed were predominantly alien species or Polynesian introductions, it is not anticipated that the development of the FRTC will have a significant impact on fauna. In an effort to keep native plants and resources accessible, the proposed project will plant native plants to the extent feasible, particularly those already known in the project area or historically may have occurred in the project area in a publicly accessible area off Kahelu Avenue, so cultural practitioners can still access and gather plants without having to enter a secured area.

No native wildlife species were observed in the project area. The project area does not provide suitable habitat for endangered Hawaiian waterbirds, although they may occur in the vicinity of the project area. To avoid any potential impacts from construction activities, the BMPs and mitigation measures discussed in Section 3.6 will be implemented during all phases of construction.

Air Quality: Construction of the FRTC may result in temporary construction-related nuisances to the surrounding air quality. To minimize the construction-related impacts on air quality, fugitive dust control measures may be incorporated as discussed in Section 3.7. These measures may include a frequent watering program, applying chemical soil stabilizers, mulching and/or using wind screens. Onsite mobile and stationary construction equipment also would emit air pollutants from engine exhausts, but there are no sensitive receptors present within the surrounding project area. Due to the limited amount of VOC emissions anticipated during the day-to-day operations at the FRTC, the generation of ground-level ozone is expected to be minimal. With the low generation of ground-level ozone, the generally large spatial area of the property, and the initially low background concentrations, it is expected that the proposed project would comply with all HIAQS and NAAQS requirements.

Noise: Construction of the FRTC may result in temporary construction-related nuisances to the surrounding ambient noise levels. Table 16 in Section 3.8 lists the areas that may potentially be impacted by construction noise; this is to be confirmed with detailed construction impact modeling. High noise levels generated by the project's construction activities may potentially impact The Terraces at Launani Valley during construction of Phases A and B, which could span five years. The Army Garrison NCO Academy located across of Higgins Road may experience high noise levels throughout construction of Phases A, B, C, and D, which could span more than ten years.

Noise analysis of proposed construction equipment and schedule should be conducted as the details of the design for each phase is further developed in order to mitigate increased noise levels. Based on the generalized noise levels at the nearest residences, the DOH Community Noise Control criteria will likely be exceeded at times during construction of the FRTC, and the project will require a Noise Permit. To mitigate the potential construction noise impacts which may exceed the "maximum permissible" property line noise levels, the contractor should submit a noise permit application to DOH which should detail BMPs to mitigate noise. BMPs should include, but not be limited to, using mufflers on diesel and gasoline engines, using properly tuned and balanced machines, etc.

The MTP Preschool is anticipated to be impacted by the increase in total traffic noise levels along Kahelu Avenue due to the day-to-day operations at the FRTC, which will exceed FHWA and HDOT NAC thresholds. A minimum 7-feet tall noise barrier along Kahelu Avenue at the MTP Preschool is anticipated to provide the required noise reduction to achieve noise levels below the NAC, as the barrier would provide an approximate reduction of 4 dBA.

Traffic: The project site is located in an area with limited multimodal infrastructure and transit accessibility. One vehicular access is planned at the end of Kahelu Avenue, approximately 4,500 feet east of the intersection with the H-2 Freeway NB Off-ramp. Existing intersections and H-2 Freeway automobile operations in the study area were found to operate with acceptable LOS and delay. The proposed FRTC development will generate increases in construction related traffic along Leilehua Road and Kahelu Avenue, resulting in traffic impacts at the intersections with the H-2 Freeway Off-ramp and with Wikao Street. Traffic operations show that the TWSC configurations at these intersections will require mitigation by the end of Phase B of development (2027). Without mitigation, these delays will only worsen as development of the FRTC continues.

Health, Safety, and Well-being: During construction, the adjacent neighborhoods and nearby businesses may experience nuisances including increases in noise, dust, and traffic. It is not anticipated that these impacts would present a significant threat to the health, safety, and well-being of the public. The day-to-day operations at the FRTC is anticipated to generate an increase in traffic, and therefore an increase in ambient noise levels within the surrounding environment. While an increase in traffic and noise levels are anticipated, mitigation measures

are proposed to lessen the impact on the surrounding environment, as discussed in Sections 3.8 and 3.10. The proposed action would have a positive impact on the health, safety, and well-being of the community, Central O'ahu region, and the State by creating a state-of-the-art training and operations facility for first responder agencies at the Federal, State, and County levels. The proposed FRTC would enhance the environment's long-term productivity by providing the necessary space and facilities needed by first responder agencies to conduct training activities, carry out day-to-day operations, and coordinate response activities and processes with other agencies in order to provide first response services to the island of O'ahu and the State. Relocating the first responder agencies to the proposed location of the FRTC would also enhance the long-term productivity of the agencies themselves, as many of the agencies' facilities are currently located within areas that are vulnerable to inundation from tsunamis and/or sea-level rise. Having the first responder agencies located in one centralized location is a proactive step to reduce the State and the County's vulnerability to natural disasters and the impending impacts of climate change, and to prepare the agencies with the necessary training and facilities to respond to future natural and manmade disasters.

6.2 Extent To Which the Proposed Action Forecloses Future Options

It is not anticipated that the construction and operation of the proposed action would result in foreclosure of future options or narrow the range of beneficial uses of the environment. The proposed project site is on land that was previously planned for the development of MTP Phase II. MTP Phase II was envisioned to include 115-acres of "campus industrial" use and 10-acres of open space use, however this phase was never developed, and the land was subsequently sold to the HTDC for the development of the FRTC.

Parcel 039 and a portion of Parcel 057 are within the State Land Use Agricultural District, however based on the discussions in Sections 3.3 and 3.14, the land in Parcel 039 is not suitable for farming or ranching due to poor soils, steep slopes, lack of irrigation water, and dense forest of mature trees. In addition, both parcels are not currently, and have not been recommended to be, identified as IAL.

7.0 SUMMARY OF SIGNIFICANT BENEFICIAL IMPACTS, ADVERSE IMPACTS AND MITIGATIONS

7.1 Summary of Beneficial Impacts

The Hawaiʻi Technology Development Corporation (HTDC) proposes to develop the First Responder Technology Campus (FRTC), which is envisioned to be a state-of-the-art facility intended to serve up to nineteen (19) Federal, State of Hawaiʻi and City and County of Honolulu (County) first responder agencies within one campus for operations, training and disaster preparedness purposes. The FRTC will be the first campus of its kind in the State of Hawaiʻi.

The proposed action consists of various uses ranging from office, classroom, warehouse, fitness, indoor shooting range, outdoor training and may include accessory uses such as hotel/dormitory and workforce housing. In 2014, the Hawaiʻi State Legislature appropriated funds for the acquisition of lands to develop the FRTC. The proposed campus project was envisioned as a long-term solution to address first responder agency needs for operations, training, and concerns with climate change and sea level rise impacts on existing facilities. In 2020, the COVID-19 pandemic highlighted the challenges that many of these agencies face and brought a new shared focus to Hawaiʻi's immediate and long-term needs for first responders. These circumstances resulted in nearly double the number of first responder agencies invested in the project between 2014 and 2021.

Locating agencies at FRTC would provide a more efficient use of money spent on facilities and maintenance, as many of the agencies have shared needs and would benefit from shared facilities and training areas. Trainees of first responder agencies are often sent to out-of-state training facilities, which comes at a significant cost to each agency. The FRTC would allow agencies to conduct their training on-island with access to the latest technology for training and collaboration. This includes a separate rescue training area for HIARNG in the east campus which is adjacent to and compatible with the east range training areas utilized by the U.S. Army.

Locating multiple agencies in one campus will provide more opportunities for integration, coordination, and cross-training between agencies from the Federal, State, and County level, while decreasing the cost for these agencies to develop their own individual facilities.

Many of the agencies' existing facilities are within coastal areas that are vulnerable to natural disasters and climate change hazards. The proposed FRTC would provide a centralized location for first responder agencies' operations and training that is located outside of vulnerable flood hazard zones, tsunami evacuation zones and coastal locations. The proposed location of the FRTC is located within the Central Oʻahu region and is approximately 10 miles away from the nearest shoreline. Based on the sea level rise guidance issued by the City and County of Honolulu Climate Commission, agencies should be considering six feet of sea level rise impacts

on critical infrastructure in affected areas. Relocating facilities of first responder agencies to the FRTC would assure that the critical infrastructure and facilities needed by the agencies to carry out their operations will be able to continue unhindered by flooding, sea level rise, and other coastal hazards. The FRTC presents an ideal long-term solution for the federal, state, and county first responder agencies to plan for the impending impacts of climate change and sea level rise as it relates to their facilities.

The FRTC will result in a positive benefit of new employment opportunities, including new jobs created through construction and through the operational employment to support the campus and its accessory uses. The anticipated economic impact of construction and activities related to Phase A of the project is estimated to generate between $170.8 million and $256.2 million in additional economic impact in the City and County of Honolulu; create or support between 766 and 1,149 jobs; generate between $56.6 million and $84.9 million in earnings tied to those jobs; and produce between $10.3 million and $15.4 million in state tax revenues in O'ahu over the course of the estimated three-year timespan. All figures account for direct, indirect, and induced impacts arising from the initial project phase. The wholesale trade and retail trade industries are also likely to experience a significant increase in economic activity including an additional $24.6 to $37 million in output, 82 to 122 jobs, $6.1 to $9.2 million in earnings, and generation of $630,000 to $940,000 in state tax revenue. Retail trade, a sector influenced by the additional spending from the earnings produced by this project, is expected to experience $14.7 to $22.1 million in additional economic output, 121 to 182 jobs, $4.8 to $7.2 million in additional earnings, and generate $1.05 to $1.6 million in state tax revenue (SMS, 2022). Economic impacts are not relegated to just the construction-related industries; positive economic impacts are expected within the real estate industry, the rental and leasing industry, the eating and drinking industry and the accommodation sector. These industries will see increases in output, new jobs, additional earnings, and increased state tax revenues.

The FRTC will also include land set aside for possible private development of a select-service hotel for visitors and overnight accommodations. There are currently no hotels in the Central O'ahu communities of Mililani and Wahiawā. The first responder agencies' trainees from all islands are anticipated to use the dormitory-like rooms during their training at the FRTC. It is also anticipated that the FRTC will serve as a regional training facility within the Pacific region, thus providing a greater demand for accommodations on or near the campus. In addition, government/military and corporate demands are expected to be accommodated by the hotel for the FRTC and the nearby Schofield Barracks, Wheeler Army Airfield, the surrounding businesses located in MTP Phase I and visitors and guests of the Central O'ahu region. A *Market Demand Study* prepared by Colliers in November 2020 confirmed that a hotel located within the FRTC would primarily accommodate visiting friends and family of the residential population of Schofield Barracks, Wheeler Army Airfield, Mililani, Waipio, and Wahiawā due to the proximity to the project site.

The workforce housing development is anticipated to include 400 to 500 studio and one-bedroom units that will accommodate trainees and employees located at the FRTC along with the demands of the surrounding community. It is intended that proposals will be solicited from hotel developers, business mixed use developers and housing developers to build and lease these areas from the State, which will minimize the funding needed from the State to design, operate, and maintain these facilities, while still providing these beneficial uses to the surrounding community and the FRTC.

7.2 Summary of Potential Adverse Impacts

Adverse impacts can be defined as short- and long-term effects relative to the construction and implementation of a specific use. Short-term impacts are usually construction-related impacts that will occur during construction and cease upon completion of the proposed action. Long-term impacts generally result from the implementation of the proposed action.

Climate: The development of the FRTC will result in short-term irrevocable release of GHG emissions from construction activities. Based on conservative assumptions, the maximum criteria pollutant annual emissions for day-to-day operations at the FRTC would not exceed 60.5 tons of CO per year but would require a minor source permit by the DOH Clean Air Branch. It is anticipated that the projected amount of GHGs emitted during the day-to-day operations of the FRTC will comply with all HIAQS and NAAQS requirements as it will have a low generation of ground-level ozone.

Health, Safety, and Well-being: During construction, the adjacent neighborhoods and nearby businesses may experience nuisances including increases in noise, dust, and traffic. It is not anticipated that these impacts would present a significant threat to the health, safety, and well-being of the public. The day-to-day operations at the FRTC is anticipated to generate an increase in traffic, and therefore an increase in ambient noise levels within the surrounding environment. While an increase in traffic and noise levels are anticipated, mitigation measures are proposed to lessen the impact on the surrounding environment.

Noise: Noise impacts generated by construction activities are anticipated to adversely impact nearby land uses during construction. Additional noise analysis of proposed construction equipment and schedule should be conducted as the details of the design for each phase is further developed in order to mitigate increased noise levels. Short-term increases in noise levels will result from the use of construction equipment and vehicle movements on public roads and at the FRTC site. For construction work to be performed at night or on weekends and holidays, a Community Noise Variance permit from the DOH will be required if it exceeds regulatory noise levels. Conducting training activities can also result high noise level impacts on surrounding properties and mitigations to reduce the impacts of training activity noise will be required.

Utility Services and Water: The proposed action will require a greater demand for utility infrastructure and services within the region since there are currently no improvements for these utilities on site to serve the FRTC. The full extent to which regional infrastructure and utilities may need to be upgraded to support the proposed action is contingent upon the final scope and scale of the final design effort undertaken by future phases; however, it is anticipated that adverse impacts would be appropriately mitigated through adherence to State, and County regulatory requirements and the implementation of applicable BMPs.

Air Quality: This Draft EIS includes a discussion of the potential direct, indirect, and cumulative air quality impacts related to the proposed development and operation of the FRTC. It is anticipated that the FRTC has the potential to affect the air quality through emissions from stationary sources of pollutants such as generators, boilers, or space heaters throughout the campus; emissions from commuter traffic to the site; emissions from training vehicles stored and operated on-site (emergency vehicles, etc.); generation of airborne dust during construction Phases A through F; and generation of tailpipe emissions from construction worker commuter vehicles and construction equipment during each development Phase.

Construction-related emissions include tailpipe emissions from construction equipment, delivery trucks, and workers commuting to and from the construction site. Other construction-related emissions could include fugitive dust emissions from earth disturbances during construction and from vehicle movement on-site. The anticipated worst-case phase of construction is Phase B, which includes completion of the 2,000-space parking garage and construction of several buildings, in addition to on-going utility installation beneath the roadways.

7.3 Summary of Proposed Mitigation Measures

The short-term impacts associated with the proposed action involve the construction anticipated to occur in multiple phases over a period of fifteen years or longer. The impacts associated with use of resources during construction would be temporary and are not anticipated to have a significant adverse impact on the project's relationship with the surrounding environment. Construction activities will temporarily impact ambient noise levels, air quality, and traffic within the surrounding area. Long-term impacts generally result from the implementation of the proposed action through operations and training activities.

Mitigation measures are proposed to provide the necessary environmental protections, and appropriately address public safety and welfare with the least amount of inconvenience and nuisance impacts. The following is a list of proposed mitigation measures for the project.

Construction BMPs:

- Grading activities will follow BMPs in compliance with the NPDES Permit. The contractor would submit a site-specific construction BMP Plan to the State Department of Health

for approval before grading commences. Construction BMPs may include, but not be limited to, a combination of stabilized construction egress, dust control, filter socks, and drain inlet protection. An Erosion Control Plan would also be prepared by the contractor and approved by the County.

- During construction, there is potential for water quality impacts due to sediments being transported by runoff, however these impacts can be mitigated by proper implementation of best management practices (BMPs). BMPs may include, but are not limited to, temporary sediment basins, silt fences, dust fences, slope protection, stabilized construction vehicle entrance, grate inlet protection, and use of compost filter socks. Permanent sediment control measures will be used once construction is completed.
- Potential impacts from construction activities include the introduction and spread of invasive species. The project will incorporate specifications that will include BMPs to minimize introduction and spread of invasive species in the project area. BMPs may include the following:
    - All construction equipment and vehicles should arrive at the Project site the first time clean and free of: any soil; plants or plant parts, including seeds; insects, including eggs; and reptiles and amphibians, including their eggs. Similarly, all construction equipment and vehicles should also be cleaned after use on the Project and before leaving to another site.
    - All materials imported to the Project site, including gravel, soil, rock, and sand, should be free of invasive plants. Invasive species found on the stockpile should be removed either chemically or mechanically.
    - Only plants grown on O'ahu should be used for landscaping purposes. If locally grown plants are unavailable, then imported plants may be used, but they should be thoroughly inspected or quarantined if necessary to ensure that they are free from invasive pests such as the coconut coqui frogs (Eleutherodactylus coqui) and little fire ants (Wasmannia auropunctata), and invasive plant seeds and seedlings that could arrive inadvertently.
    - Only weed-free seed mixtures should be used for hydroseeding and hydromulching on the project site. A qualified botanist should inspect the seeded areas a minimum of 60 days after the hydroseed/hydromulch is applied. Any species of plant other than those intended to be in the hydroseed/hydromulch should be removed. In particular, plant species that are not known to occur on O'ahu and those that are actively being controlled on the island should be removed.
- If pueo are seen at the project site, DLNR will be notified and consulted to assess the potential impacts on pueo from project implementation and to incorporate measures to avoid and minimize impacts.
- Should future project construction activities involve temporary or permanent standing water, including excavation or grading for construction or roadwork, then it is likely to attract endangered Hawaiian waterbirds, particularly the Hawaiian stilt which is known

to nest in sub-optimal conditions such as ponding water features. The USFWS and DLNR will be consulted to evaluate the potential impacts on listed waterbirds should there be temporary or permanent standing water constructed on the project site.

- During land clearing activities that include tree removal, the USFWS guidelines will be followed, which recommend that no trees greater than 15-feet tall be trimmed or removed during the Hawaiian hoary bat pupping season from June 1 to September 15.
- Fugitive dust control can be accomplished by the establishment of a frequent watering program to keep bare dirt surfaces in construction areas from becoming significant sources of dust. In dust prone or dust sensitive areas, other control measures such as limiting the area that can be disturbed at any given time, applying chemical soil stabilizers, mulching and/or using wind screens may be necessary. The contractor will be required to prepare a dust control plan during construction compliant with provisions of HAR, Chapter 11-60.1 Air Pollution Control and Section 11-60.1-33 Fugitive Dust.
- To mitigate the potential construction noise impacts which may exceed the "maximum permissible" property line noise levels, the contractor should submit a noise permit application to DOH which should detail BMPs to mitigate noise. BMPs should include, but not be limited to, using mufflers on diesel and gasoline engines, using properly tuned and balanced machines, etc. The DOH may require additional noise mitigation, such as temporary noise barriers, or time of day usage limits for certain construction activities.
- To comply with the storm drainage standards, storm water shall be detained onsite using post construction BMPs such as detention basins, trenches, underground storage, bioretention, and/or permeable pavement prior to being released at pre-development rates. Any storm water that is not retained onsite shall be biofiltered using post construction BMPs such as vegetated bio-filters, swales, and buffer strips.
- As a safe measure to further avoid potential impacts to known and unknown historic properties, HTDC proposes to implement the following best management practices during construction:
    - Interim protective measures consisting of high visibility material such as orange web fencing will be installed along the project limits where proposed work is required within 500 ft of significant historic properties and will be maintained for the duration of work in that area. The locations of significant historic properties and minimum buffers will be illustrated on the project's construction plans.
    - An archaeological monitoring program consisting of on-call monitoring with periodic spot checks will be conducted for identification purposes and to ensure the efficacy of the avoidance and protective measures.
    - The Hawaiian Civic Club of Wahiawā will be notified in the unlikely event that human remains or traditional (pre-Contact) historic properties are inadvertently discovered during construction.

Archaeological, Historic Properties, Cultural:
The *Archaeological Literature Review and Field Inspection Report* prepared by CSH identified mitigation measures which include:

- Formal identification of the ditches (CSH 2 and 3) should be conducted prior to any projects that may impact them. It is also recommended that the two historic properties identified within the gulch (SIHP # 50-80-09-3401/50-80-09-4843, and CSH 1) should be further investigated to determine function, age, extent, and significance, should any proposed developments have the potential to impact them.
- Regarding Parcel 039, the Waikakalaua Ditch complex is believed to have possible significance. CSH anticipates that there are likely additional features present in this parcel related to the historic properties identified during the field inspection. Thus, it is recommended that an archaeological investigation in consultation with SHPD should be done prior to any projects being planned for this parcel.

The *Cultural Impact Assessment* prepared by Honua identified the "feasible" actions to protect Native Hawaiian rights that may include providing continued access to the project site as needed to conduct cultural practices. The loss of pig hunting areas is feasibly addressed through the nearby hunting areas available to hunters. It is recommended that continued access to the project site be maintained for gathering plants. The plant gathering in the area is unlikely to be extensive, although the area was likely used traditionally for lauhala gathering. Therefore, in addition to the identified plants in the area, it is recommended that lauhala be used in landscaping to restore some of the native plants that were known to previously exist in the area.

Further consultation with SHPD will be conducted to identify the necessary processes to minimize or avoid any potential impacts, and if needed, determine the necessary mitigation commitments to minimize the impacts to cultural or historic resources within the project area.

Noise:
Noise impacts are possible during construction and detailed analysis is needed to determine the potential benefit from equipment and project specific mitigation methods. Noise analyses of proposed equipment and schedule should be conducted as the phases of design are further developed to mitigate noise levels at these receptors.

Based on the generalized noise levels at the nearest residences, the DOH Community Noise Control criteria will likely be exceeded at times during construction of the FRTC, and the project will require a Noise Permit. Should nighttime construction work occur, a Noise Variance will be required, although night work is not recommended given the relatively quiet ambient noise levels and proximity of the site to noise sensitive neighboring uses.

- The possible mitigation measures for anticipated long-term traffic noise related impacts are listed in order of effectiveness and include:

- Air-conditioning or forced ventilation for those impacted receptors along Kahelu Avenue. Where applicable, jalousie windows should be replaced with standard storm windows with acoustical gaskets. Typical exterior-to-interior noise reduction for naturally ventilated spaces, i.e., with open windows, is only 9 dB. Noise reduction for air-conditioned spaces with the windows closed is significantly higher. This method would not be effective for the outdoor activity areas of the MTP Preschool that would be directly exposed to noise from Kahelu Avenue.
- Construction of noise barriers (that incorporate landscaping for aesthetic purposes) whether within or outside the roadway right-of-way. Factors such as distances to roadways and setbacks, intervening ground conditions, barrier construction, barrier height, roadway elevations, receiver height, etc., will determine the noise reduction afforded by a traffic noise barrier. Typically, a sound level reduction of at least 5 dB can be expected where a noise barrier just breaks the line-of-sight from the receiver to the roadway. However, some of these receptors have driveways off of Kahelu Avenue which would necessitate a break or gap in the noise barrier wall. The reduction in traffic noise levels will be less significant for the areas where gaps in the noise barrier wall would be common. Initial studies indicate a minimum 7-feet tall barrier wall would be needed to mitigate traffic noise levels at MTP Preschool to below the NAC threshold and would need to extend the entire property line along Kahelu Avenue and wrap around approximately 20-feet along Palii Street. At other office space receptors along Kahelu Avenue with multiple stories it is not likely that the 5 dB reduction would be achieved without using excessively high walls.
- Acquisition of real property or interests therein (predominantly unimproved property) to serve as a buffer zone to preempt development which would be adversely impacted by traffic noise.
- Traffic management measures (e.g., traffic control devices and signing for prohibition of certain vehicle types, time-use restrictions for certain vehicle types, modified speed limits, and exclusive land designations).
- Introducing alternate access routes to FRTC via Higgins Road, which has primarily industrial and storage facilities less sensitive to noise. This alternative would require further traffic analysis to determine whether enough traffic would divert to Higgins Road to reduce noise levels along Kahelu Avenue. As described earlier, this alternative is not currently part of the project design.

<u>Flora and Fauna:</u>

Potential impacts from construction activities include the introduction and spread of invasive species. The project will incorporate specifications that will include BMPs to minimize introduction and spread of invasive species in the project area, along with measures to mitigate any potential impacts to Hawaiian waterbirds, pueo, and the Hawaiian hoary bat; these are listed in the "Construction BMPs" section. It is anticipated that the project will not result in a

substantial adverse impact on any plant species that is State or Federally listed as threatened or endangered, candidate species for listing as endangered, or rare native Hawaiian plant species.

It is recommended that native plants be preserved in place, to the extent feasible. The project design specifications for revegetation of areas disturbed during or after construction, as well as any landscaping planned for the FRTC, will include the use of native plants to the extent feasible. Potential native plants that are ecologically suitable for revegetation in mesic habitat at the project site include koa, hala (*Pandanus tectorius),* lama *(Diospyros sandwicensis*), papala (*Charpentiera obovata*), mamaki (*Pipturus albidus*), and O'ahu sedge (*Carex wahuensis*). If native plants do not meet the landscape design objectives, plants with a low risk of becoming invasive may be substituted.

Water Quality:
Measures to mitigate any potential impacts to water quality during construction activities are outlined in the "Construction BMPs" section. It is anticipated that there will not be any long-term significant impacts on nearby surface and/or coastal waters during construction and operations of the FRTC. The project proposes to include an access road to Parcel 039 as well as office and warehouse space. A majority of the parcel will remain undeveloped and will be used as a Search and Rescue Training Area. The Waikakalaua Stream will not be affected or impacted by the development of the proposed project or the intended use of the parcel.

Air Quality:
Construction activities are anticipated to produce dust and debris, which may impact the surrounding air quality. The "Construction BMPs" section lists the fugitive dust control and mitigation measures that can be applied during construction.

Due to the limited amount of VOC emissions (0.1 tons/yr) and NOx (10.1 tons/yr), the generation of ground-level ozone is expected to be minimal. With the low generation of ground-level ozone, the generally large spatial area of the property, and the initially low background concentrations, it is expected that the proposed project would comply with all HIAQS and NAAQS requirements.

Traffic:
The proposed FRTC will generate a considerable increase in traffic along Leilehua Road/Kahelu Avenue, resulting in traffic delays at the intersections with the H-2 Freeway Off-ramp and with Wikao Street. Traffic operations and analysis shows that the TWSC configurations at these intersections will require mitigation by the end of Phase B of development. The H-2 Freeway NB Off-ramp intersection will have turning movements that operate at LOS E, and the Wikao Street intersection will have turning movements that operate at LOS F. These intersections passed the future peak hour traffic signal warrant. Permissive phasing traffic signals and multi-lane roundabouts were analyzed at each of these two intersections for future with project conditions. While both mitigation measures operated efficiently, roundabouts are the preferred

alternative due to their benefits when it comes to multimodal safety, environmental emissions, and maintenance costs.

While some traffic movements at the intersection of Kahelu Avenue and Akamainui Street operated poorly in the Synchro analysis, field observations and SimTraffic analysis showed that this intersection operates at an acceptable LOS. Although the turning movements at this intersection are relatively minor, it is recommended that this intersection be monitored, and the installation of a roundabout or traffic signal be considered in the future if needed.

A PEQI analysis at the intersections along Kahelu Avenue showed scores lower than the recommended pedestrian target score for an avenue. It is recommended that pedestrian signage be added to these intersections in accordance with standards from the Honolulu Complete Streets Manual.

It is recommended that the proposed extension of Kahelu Avenue to the FRTC be designed to continue the sidewalks and bike lanes to minimize multimodal conflicts. In addition, Complete Streets improvements will be made where appropriate, which will be determined through consultation with the Department of Transportation Services (DTS). State and City agencies and officials, including TheBus, will be consulted should any future bus stops fronting the project site be proposed.

8.0 IRRETRIEVABLE AND IRREVERSIBLE COMMITMENTS OF RESOURCES

An irreversible or irretrievable commitment of resources refers to impacts on, or losses to resources that cannot be recovered or reversed. Under the context of the commitment of resources, the term “irreversible” refers to the loss of future options for a resource, primarily the impacts of use of non-renewable resources, such as minerals or cultural resources. “Irretrievable” refers to the loss of a resource that is not renewable and cannot be recovered for future use.

The proposed action will involve the use of non-renewable resources during construction and operations. The irreversible and irretrievable commitments of resources during construction may include:

- Use of fossil fuels for construction vehicles and equipment, such as cranes, excavators, dump trucks, bulldozers, etc.
- Use of construction materials
- Excavation and disposal of soil and sediment
- Displacement, clearing, and/or relocation of existing vegetation
- Expenditure of funds to finance construction
- Construction manpower

In the short-term, construction activities would require the consumption of fossil fuel and energy, as construction vehicles and equipment use fuel, either gasoline or diesel, to operate. This would also include electrical construction equipment relying on fossil fuel generated electricity. Irreversible and irretrievable commitments to resources during construction activities would be unavoidable but would be minor and temporary in nature.

The proposed action would require land clearing activities that would remove most of the existing trees and vegetation within the project site and would constitute as an irreversible and irretrievable loss of natural resources. As discussed in Section 3.6, the biological survey did not identify any plant species that are State or Federally listed as threatened or endangered, candidate species for listing as endangered, or rare native Hawaiian plant species located in the project site. In addition, the native plant species that were found within the project site are considered widespread on O‘ahu as well as elsewhere in Hawai‘i. It is recommended that the project incorporate native plants to the extent feasible, particularly those already known in the project area or historically may have occurred in the project area. In addition, existing trees and vegetation along the perimeter of the site will be left in place to serve as a noise buffer between the FRTC and the U.S. Army Garrison property in the north, and the residential areas of Launani Valley and Mililani Mauka located south of the project site.

Parcel 039 and a portion of Parcel 057 are within the State Land Use Agricultural District, however based on the discussions in Sections 3.3 and 3.14, the land in Parcel 039 is not suitable for farming or ranching due to poor soils, steep slopes, lack of irrigation water, and dense forest of mature trees. Land within Parcel 057 was historically used for pineapple cultivation, but it has not been farmed for at least 20 years and has since been covered by dense vegetation and mature trees. While the proposed development of the FRTC will result in a loss of land designated within the Agricultural District, the land is not currently used for agricultural production and has been assessed to be unsuitable for farming or ranching activities.

Construction activities would require the manufacturing and use of materials. Materials that cannot be recycled at the end of the project would become an irreversible and irretrievable commitment of resources, however no supplies are considered scarce and thus would not limit other unrelated construction activities in the region.

Fossil fuel would be irreversibly and irretrievably committed as part of the proposed action's operations, both in terms of providing electrical power to the site and in the day-to-day operations.

It is anticipated that the proposed FRTC would result in beneficial, cumulative effects on overall public health and safety, and employment in the area. As discussed in Section 3.11, the proposed project would beneficially impact the industries most closely related to the engineering and construction fields. The FRTC would provide operations and training facilities for the first responder agencies, which would allow the agencies to provide enhanced and more efficient first response services to the public.

9.0 SUMMARY OF UNRESOLVED ISSUES

The various planning processes being pursued by the HTDC, including preparation of this Programmatic Draft EIS, community outreach efforts, and conceptual designs, have been conducted based on best available information and expertise of those knowledgeable in the design and construction of the types of facilities proposed. A summary of the unresolved issues for the proposed action as of the date of publication of this Draft EIS is included below, along with a discussion of how the issues may be resolved prior to commencement of project construction.

Project Design

Due to the nature and complexity of the proposed project, including the phasing and timing of construction, multiple agencies involved, and available funding, there are no conceptual design plans for the facilities available at the time of filing of this EIS. The design and details of the facilities will be developed during the later phases of development. In addition, it is anticipated that adjustments and refinements to the master plan and site layout presented in this EIS will be made by the design team as the project advances through the subsequent phases. The first responder agencies will be responsible for the design and construction of their own facilities, as well as obtaining the permits and approvals necessary for construction. Should the agencies propose new facilities and/or uses that may result in impacts that have not been assessed in this Draft EIS, then additional environmental documentation may be prepared.

Phasing/Timing

The phases and timing of construction presented in this EIS is based on the best available information and the anticipated process of design and construction to develop the FRTC. The actual timing of construction will be subject to the approval of the necessary land use entitlements and permits and the availability of funding (further described below).

Funding

The availability of funding will determine the actual timing of construction of each phase of the FRTC development. Each agency will fund the design and construction of their own individual facilities, while the cost of the shared facilities will be split amongst all the agencies. Thus, the timing and amount of funds appropriated to each agency will determine the actual timing and duration of each phase of the FRTC's development.

Private Development

The FRTC proposes to set aside land for workforce housing, business mixed use development, and a hotel/dormitory to be developed by private entities. The details of each development will be adjusted and refined by the private developers, with approval from the HTDC. Should the private developers propose new facilities and/or uses that may result in impacts that have not been assessed in this Draft EIS, then additional environmental documentation may be prepared.

Noise Impacts

As discussed in Section 3.8, it is anticipated that the increase in traffic due to the FRTC development will also result in an increase in the ambient noise levels along Kahelu Avenue. The MTP Preschool is anticipated to be impacted by the increase in total traffic noise levels along Kahelu Avenue due to the day-to-day operations at the FRTC, which will exceed FHWA and HDOT NAC thresholds. A minimum 7-feet tall noise barrier along Kahelu Avenue at the MTP Preschool is anticipated to provide the required noise reduction to achieve noise levels below the NAC, as the barrier would provide an approximate reduction of 4 dBA. While this was the recommended mitigation measure to achieve the required noise levels, further analysis will need to be conducted to determine if it is the most feasible action to implement and/or if other measures may be implemented to achieve the same result. Consultation with the MTP Preschool and the DOH should be conducted to determine the most feasible measure(s) to implement to lessen the impacts of the traffic-generated noise as it relates to the FRTC development.

Utilities and Infrastructure

The Proposed Action will generate a greater demand for utility infrastructure and services regarding electrical, water, and wastewater services since there are no improvements for these utilities on site to serve the FRTC. The full extent to which regional infrastructure and utilities may need to be upgraded to support the Proposed Action is contingent upon the final scope and scale of the final design effort undertaken by future phases; however, it is anticipated that adverse impacts would be appropriately mitigated through adherence to State, and CCH regulatory requirements and the implementation of applicable BMPs.

Army Road Easement and Higgins Road Access

HTDC has initiated formal coordination with the U.S. Army Garrison (USAG) to identify and discuss opportunities for collaboration to increase security to both Federal and State properties, share in necessary infrastructure, and increase coordinated efforts during islandwide emergencies. The FRTC property runs adjacent to Higgins Road at Schofield Barracks and is located east of Leilehua Golf Course and across the street from the NCO Academy. As currently there is no secured gate to access Higgins Road from Kamehameha Highway.

As part of these discussions, HTDC and USAG are considering the potential for upgrading and securing Higgins Road for controlled access for USAG and the FRTC and providing an access and utility easement over the USAG's property to connect the east campus with the west campus and upgrade of any available utilities along Higgins Road.

The BWS property and reservoir separates the two FRTC parcels, and the USAG property is north of the BWS property. A steep ravine is along the south of the BWS and east campus parcels which makes it infeasible to build an access road south of the tank. There is also inadequate space within the BWS parcel to build a road across BWS property north of the tank.

Consequently, HTDC has requested an access and utility easement over the USAG's property to access the proposed search and rescue training area.

HECO Substation and Other Electrical Facilities

A portion of the west campus in the northeast corner is being reserved for future HECO uses which will include a substation and other HECO facilities to serve the FRTC and regional electrical infrastructure needs. There is no existing electrical infrastructure to the project site except for two overhead 46kv lines that bisect the site. The project team is currently meeting with HECO to evaluate electrical source options, and responsibilities to design and construct the necessary infrastructure to connect to primary power. In the long term, the project team and HECO will establish substation requirements, possible alternative power sources, and possible onsite power generation options. In addition, an entire electrical distribution system master plan will be studied which will need to include primary power and emergency backup power systems as well as redundant grid source power capacities and requirements.

The proposed actions electrical design will include the backbone of electrical infrastructure necessary in the first phase of constructing, however future HECO facilities desired at the FRTC site are undetermined at this time and will be coordinated with HECO concurrent with the initial phases of the proposed action.

Helipad

A helipad was originally envisioned to be included at the FRTC on the roof of the parking structure, and it was identified in the EISPN published on November 8, 2021. The proposed use of a helipad at the FRTC has been removed from further consideration as part of the proposed action within the Draft EIS. Should the helipad be constructed in the future, the appropriate documentation pursuant to Chapter 343, HRS will be prepared to further assess the impacts to the surrounding environment.

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10.0 CONSULTATION

10.1 Charrette Sessions

In 2021 HTDC conducted a charrette for the preparation of an updated master plan for the FRTC. The charrette involved representatives from nineteen (19) Federal, State, and County agencies to understand their organization's training and spatial needs, opportunities, and constraints. A summary of each charrette session is described below.

Charrette Session 1: On January 20, 2021, the first charrette session was held to introduce the client, project team, and stakeholder agencies; provide an overview and orientation of the project; and explain the charrette process to the stakeholders. During this session, the project team oriented the stakeholders to the project site by providing regional context, surrounding land uses, climate data, topography, infrastructure and access, and the archaeological and historical setting of the area. The conceptual master plan prepared by the UHM-CDC was shared with the stakeholders. The project team also identified potential uses that may be located at the FRTC that would be further evaluated in the following charrette sessions. Three stakeholder champions from the U.S. Department of Homeland Security, Hawai'i Emergency Management Agency, and the Honolulu Fire Department took part in a panel discussion on the needs and opportunities that their agency would seek at the FRTC.

Charrette Session 2: On February 2, 2021, the second charrette session was held to confirm individual stakeholder needs; explore stakeholder interests in shared facilities; and prepare the stakeholders for the individual meetings/interviews that would take place as Charrette Session 3. During this session, each agency had the opportunity to present and discuss their priorities, visions, and goals for relocating to the FRTC; the potential facilities and activities that would be located at the FRTC; and the types of facilities that they would hope to share with other agencies. The project team presented a site analysis, which showed the existing topography, access and infrastructure on the site, and the proposed program areas based on the existing conditions.

Charrette Session 3: From February 3, 2021, to February 26, 2021, the project team conducted individual meetings/interviews with each agency to understand their specific needs and to refine their priorities for relocating to the FRTC. This session also included a series of small-group meetings with agencies interested in defining basic parameters for different shared facilities (e.g., shooting ranges, training areas, conference space, etc.). The information gathered from this session provided the basis for the conceptual plans and designs shared in Charrette Session 4 and 5.

Charrette Session 4: On March 9, 2021, the fourth charrette session was held to review, discuss, and refine the revised master plan that was prepared based on the information gathered throughout the charrette sessions. The project team shared the vision and goals of

the campus and the method and analysis that was used to prepare the master plan. The team also presented the conceptual program space dedicated to each agency. Stakeholders were able to participate in live polling to provide their feedback and thoughts on the revised master plan.

Charrette Session 5: On March 25, 2021, the fifth and final charrette session was held to finalize the master plan and to outline the next steps for the project and the stakeholders. The project team presented conceptual renderings of the site plan and massing of buildings at the FRTC. The session concluded with identifying the next steps for the project, which included drafting Memorandums of Understanding (MOUs) between the HTDC and the stakeholder agencies, preparing the Environmental Impact Statement (EIS), applying for the applicable land use approvals and entitlements, conducting engineering studies, and drafting of funding requests.

10.2 Early Consultation

During the development of the project, early consultation was conducted with DPP, BWS, and HECO to discuss the requirements that the project would need to meet for each agency. Below are summaries of the meetings held with the agencies.

DPP

On September 4, 2020, the project team met with Kathy Sokugawa, Katia Balassiano, Tim Hiu, and Eugene Takahashi from DPP to provide an overview of the FRTC and to discuss the zoning requirements for the project. Most of the property is zoned AG-1 by the County; however, a small portion of Parcel 057 is zoned I-2, which could be attributed to a discrepancy in the mapping when MTP Phase I was being considered. The project team indicated that a market study was currently being prepared to determine if there is a demand for other private uses such as commercial, industrial, hotel, office, etc. on the campus. DPP requested a revised master plan of the FRTC once the users are determined so that they could recommend a path forward, whether it is rezoning of the property or conditional use permitting. DPP also indicated that community outreach would be needed, especially if the government uses will include a firing range, explosives, helicopters, and other types of uses that the surrounding community might object to. The project team indicated that community outreach will be done as part of the EIS process.

On April 30, 2021, the project team met with Dean Uchida, Dina Wong, Katia Balassiano, Lisa Imata, and Eugene Takahashi from DPP to provide an update and an overview of the project to the new director of DPP, Dean Uchida. DPP indicated that the revised CO SCP was published in February 2021, and that the FRTC was identified in the plan. Due to the range of uses proposed at the FRTC, DPP indicated that applying for a Plan Review Use (PRU) approval may be more fitting for the project instead of applying for rezoning permits for each use proposed at the

campus. DPP was in the process of updating the LUO and indicated that the language for PRUs may be modified to include multiple entities and uses within one PRU boundary.

On January 26, 2022, the project team met with Katia Balassiano, Liz Krueger, Dina Wong, Lin Wong, Franz Kraintz, Thomas Blair, and Lisa Imata from DPP to provide an update of the project and to discuss zoning requirements for Phase A and other potential rezoning requirements. Phase A would only be constructed within the State Land Use Urban District and in the County's AG-1 zone. DPP indicated that the CO SCP does not need to be amended for Phase A, but the CO SCP Community Growth Boundary would need to be amended to include Parcel 039 prior to any construction. DPP recommended consultation with the site development division to discuss construction of Phase A. In addition, a State Land Use District Boundary Amendment would be required to redesignate areas within the Agricultural District to the Urban District.

BWS

On September 22, 2020, the project team met with Barry Usagawa, Robert Chun, and Joyce Lin from BWS to provide an overview of the FRTC project and to discuss BWS' requirements for potable water access to the site. BWS indicated that during the development of MTP Phase I, Castle & Cooke financed a new well in Wahiawā that provided water to their 994-ft elevation reservoir that services Phase I. The well was slated to provide water for Phase II, but the allocation is under control by Castle & Cooke and was not transferred to the State when Parcel 057 was purchased. BWS indicated that a second reservoir at an elevation around 1,150-ft would be required to service Phase II. A booster pump near the existing 994-ft elevation reservoir will also be required to pump water to the new 1,150-ft reservoir.

In addition, BWS indicated that the existing wells in Wahiawā may have additional source capacity, but BWS would need to get an increased allocation from the CWRM to increase the current amount pumped out of the Central O‘ahu Aquifer to accommodate the demands of the FRTC. Should this direction be pursued, the State may need to finance any upgrades to the existing well and transmission infrastructure that would be required to pump water from the existing Wahiawā well(s) to the 1,150-ft reservoir.

BWS recommended that once the amount of first responders to be located at the FRTC is determined, the 1986 Mililani High Tech Park Waster Master Plan should be updated by the project team. The Water Master Plan will need to be reviewed and approved by BWS.

HECO

On July 12, 2021, the project team met with Scott Seu, Jim Alberts, Bob Isler, Rudy Tamayo, Keola Siafuafu, Erin Kippen, Darcy Endo-Omoto, and Jack Shriver from HECO to provide an overview of the FRTC project and to informally explore mutual interests and opportunities for the HTDC and HECO. HECO indicated that there was the potential for varied levels of involvement for them at the FRTC, including providing electrical service to the project site (short-term goal), installing company equipment and/or generation equipment on the site

(mid-term goal), and/or becoming a tenant for operational purposes at the FRTC (long-term goal). The short-term goal would be to provide power to the first phase of construction of the FRTC. The mid-term goal would be for HECO to provide facilities management for all facilities and maintenance needed at the FRTC. The long-term goal would be for HECO to install a new power generation site at the FRTC. HECO indicated that they would need the power/energy requirements for each phase of construction of the FRTC to further explore their involvement with the project.

10.3 EISPN Consultation

Per HAR §11-200.1-23, consultation with appropriate Federal, State, and County agencies, organizations, and individuals is required prior to filing a Draft EIS. A list of the agencies, organizations, and individuals that were contacted during the publication of the EISPN and prior to the filing of this Draft EIS is provided in Table 49 below. Agencies or individuals that submitted a comment on the EISPN are marked with an "X," for others a blank cell indicates no comment was received.

Table 49: List of Agencies and Parties Consulted

Agency/Name	*EISPN Comments Received*
Federal Agencies	
U.S. Department of Homeland Security, Immigration and Customs Enforcement, Homeland Security Investigations	
Federal Bureau of Investigation	
U.S. Department of Justice, U.S. Marshals Service	
U.S. Department of Justice, Bureau of Alcohol, Tobacco, Firearms and Explosives	
Federal Fire Department	
U.S. Army Garrison	
U.S. Fish and Wildlife Service	X
U.S. Department of Agriculture	
U.S. Environmental Protection Agency	
U.S. Army Corps of Engineers	X
Federal Emergency Management Agency	
U.S. Geological Survey	
State of Hawai'i Agencies	
State of Hawai'i, Department of Defense - Hawai'i Emergency Management Agency	
State of Hawai'i, Department of Defense - Hawai'i Army National Guard	
State of Hawai'i, Department of Defense – State Office of Homeland Security	

Agency/Name	*EISPN Comments Received*
State of Hawai‘i, Department of Public Safety	
State of Hawai‘i, Office of Enterprise Technology Services	
State of Hawai‘i, Department of Land and Natural Resources, Division of Conservation and Resources Enforcement	
State of Hawai‘i, Department of Land and Natural Resources, Division of Forestry and Wildlife	X
State of Hawai‘i, Department of Transportation, Aircraft Rescue and Firefighting	
State of Hawai‘i, Department of Health	X
State of Hawai‘i, Office of Planning and Sustainable Development	X
State of Hawai‘i, Office of Planning and Sustainable Development, Land Use Commission	
State of Hawai‘i , Department of Education	
State of Hawai‘i, Department of Transportation	X
State of Hawai‘i, Department of Accounting and General Services	X
State of Hawai‘i, Department of Land and Natural Resources	X
State of Hawai‘i, Department of Hawaiian Home Lands	
Office of Hawaiian Affairs	X
City and County of Honolulu Agencies	
City and County of Honolulu, Honolulu Fire Department	X
City and County of Honolulu, Honolulu Police Department	X
City and County of Honolulu, Emergency Services Department, Emergency Medical Services	
City and County of Honolulu, Department of Emergency Management	
Board of Water Supply	
City and County of Honolulu, Department of Planning and Permitting	X
City and County of Honolulu, Department of Parks and Recreation	X
City and County of Honolulu, Department of Design and Construction	X
City and County of Honolulu, Department of Environmental Services	
City and County of Honolulu, Department of Transportation Services	X
City and County of Honolulu, Department of Community Services	X

Agency/Name	*EISPN Comments Received*
City and County of Honolulu, Office of Climate Change, Sustainability and Resiliency	
Wahiawā Neighborhood Board No. 26	
Mililani Mauka/Launani Valley Neighborhood Board No. 35	
Elected Officials	
Mayor Rick Blangiardi	
Senate President Ronald Kouchi, Senate District 8	
State Senate District 22, Senator Donovan Dela Cruz	
State Senate District 18, Senator Michelle Kidani	
Speaker of House, House District 26, Representative Scott Saiki	
House District 36, Representative Val Okimoto	
House District 46, Representative Amy Perruso	
Chair and Presiding Officer, City Council District 4, Tommy Waters	
City Council District 2, Councilmember Heidi Tsuneyoshi	
Libraries	
Hawai‘i State Library, Hawai‘i Documents Center	
Mililani Public Library	
Wahiawā Public Library	
Individuals and Organizations	
HLC Properties Family LTD	
Malama Pono Autism Center	
State Farm Insurance Agent	
New Hope Central O‘ahu	
Complete Dermatology	
Mililani Pain Center	
Vonlin Hawai‘i Real Estate	
Puahale LLC	
E D Ayson Engineering	
State Farm Mutual Auto Insurance	
AT&T Wireless	
Transpacific Moving/Storage	
Tony Tech Park LLC	
Potosi LLC	
TCG Kahelu Point LLC	
Mililani Industrial Center	
R&C Komatsu LLC	
MPT CBRE 1 LLC	
Cellco Partnership	

Agency/Name	*EISPN Comments Received*
Malamalama Ole Alofa-Tunoa (Kama‘aina Kids)	
Palii Partners LLC/Tradewind Palii LLC	
Hawai‘i KBC LLC	
Hawaiian Telcom	
Sykes Automotive	
Shade Tree Motorsports	
Bubble Tea Supply	
Hawai‘i Tattoo	
Oceanic Time Warner Cable	
LIN Television Corporation	
Mililani Assembly Hall Jehovah’s Witness	
Trinity Church Central O‘ahu	
Castle & Cooke	
Hawaiian Electric Company	X
The Ridge at Launani	
Gardens at Launani Valley	
Streamside at Launani Valley	
Terraces at Launani	
Woodcreek at Launani Valley	
Woodcreek Crossing at Launani Valley	
Launani Valley Community Association	
Mililani Tech Park Community Organization	
Braden Sakai	
Suzanne Vares-Lum	
Mel Kumasaka	
Fred Murphy	

10.4 EISPN Review Process and Public Scoping Meeting

Following the publication of the EISPN in *The Environmental Notice* on November 8, 2021 was a 30-day public review and comment period, in which the public could provide written comments regarding the environmental effects of the proposed action. A summary of the written comments and responses are provided in Table 50; a copy of the written comments received are included in Appendix A.

An EIS public scoping meeting was held during the 30-day public review period, per HAR §11-200.1-23. Due to public health concerns and the State and County’s restrictions on social gatherings, a virtual public scoping meeting was held on Friday, November 12, 2021, from

1:30PM to 3:00PM via Zoom. A link to sign up for the meeting was included in the publication of the EISPN.

The meeting was facilitated by representatives from SSFM. At the outset of the meeting, SSFM set courtesy rules for participants to speak and ask questions and notified the participants that the meeting would be recorded. A copy of the audio recording will be provided to the Office of Planning and Sustainable Development (OPSD), Environmental Review Program (ERP), per HAR §11-200.1-23. There was a total of 12 participants who signed into the scoping meeting. The questions and responses that were discussed at the end of the meeting are summarized below.

- *Lorrin Okimura: I know there's that one entrance into the FRTC, are there any plans for a second or other exit/entrance into the area?*
    - *SSFM: At this time there are no plans for another exit/entrance into the FRTC.*
- *Calvert Chun: Are any facilities to be open to the public? Dining, office space, classrooms?*
    - *SSFM: The answer is yes, the beginning part of this campus as you get off of Kahelu Avenue will have access to the public. There is a proposal to include community space in the form of a community center that would be open to the public. Beyond that, as you head towards the campus core, you would be entering into secured space and would have to pass through a security hut in order to get access into the actual campus.*

Table 50: EISPN Comments

Date Received	Agency/Organization /Sender	Comment	Response	Referenced Section
11/1/2021	U.S. Army Corps of Engineers, Honolulu District, Regulatory Office	The US Army Corps of Engineers (Corps) received your request for comments or input for the proposed first responder technology campus in Mililani, Island of O'ahu, Hawai'i. As your Environmental Impact Statement (EIS) is still being developed, our comments will be general at this point. A Department of the Army permit is needed if work occurs in Waters of the United States (WOTUS) under Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act. When your project is being developed, we ask that you identify areas that may fall within the Corps jurisdiction as WOTUS such as streams, rivers, and wetlands. Our first requirement is to avoid impacts to our WOTUS. If impacts are unavoidable (such as a stream crossing), then a permit will be needed from the Corps. If a permit is needed from the Corps, then we would require an application be provided. We must also evaluate the project for any impacts to resources such as threatened or endangered species, historic properties, and/or essential fish habitat, and consult if necessary. A permit is not required if all work being done is located in uplands.	The HTDC acknowledges the Corps' comments related to the WOTUS. According to the U.S. Fish and Wildlife Service National Wetlands Inventory Map, the Waikakalaua Stream runs through Parcel 039. The project proposes to include an access road to Parcel 039 as well as office and warehouse space. A majority of the parcel will remain undeveloped and will be used as a Search and Rescue Training Area. The Waikakalaua Stream will not be affected or impacted by the development of the proposed project or the intended use of the parcel.	Section 3.5
11/7/2021	State of Hawai'i, Department of	The subject properties are located in the No Pass Zone as defined by Honolulu Board of Water Supply as an area where waste disposal facilities	The HTDC acknowledges the State Department of Health, Wastewater Branch's comments. The City and County of Honolulu, Department of	Section 3.9

Date Received	Agency/Organization /Sender	Comment	Response	Referenced Section
	Health, Wastewater Branch	have the potential to contaminated ground water resources used or expected to be used for domestic water supplies. The construction of waste disposal facilities is generally prohibited in the No Pass Zone. The subject project appears to be located near the City and County of Honolulu sewer service system. The Department highly recommends the City and County of Honolulu, Department of Environmental Services should be consulted for connection to the City's sewer service system to accommodate the wastewater from the project. The wastewater systems for the project shall conform to applicable provisions of the Hawaiʻi Administrative Rules, Chapter 11-62, "Wastewater Systems." In addition, please be informed that the design plans should address any effects associated with the construction of and/or discharges from the wastewater systems to any public trust, Native Hawaiʻian resources or the exercise of traditional cultural practices.	Environmental Services has been included in the EISPN consultation process. The wastewater system for the project will comply with HAR, Chapter 11-62, "Wastewater Systems".	
11/8/2021	Honolulu Police Department	Based on the information provided, the Honolulu Police Department (HPD) recommends that all necessary signs, lights, barricades, and other safety equipment be installed and maintained by the contractor during the construction phase of the project. Any impacts to vehicular traffic may cause disruptions to businesses in the surrounding areas which could lead to complaints. The HPD recommends working with the Neighborhood Board in the area to gain support for this project with the residents and businesses alike. Furthermore, the HPD would like to be	The HTDC acknowledges the HPD's comments. The Mililani/Waipio/Melemanu Neighborhood Board No. 25 and the Wahiawā Neighborhood Board No. 26 have been consulted as part of the Draft EIS process.	Section 10.5

Date Received	Agency/Organization /Sender	Comment	Response	Referenced Section
		kept abreast of any subsequent developments for this project in the future.		
11/8/2021	Hawaiʻi Self Storage	Hawaiʻi Self Storage - Mililani has been an owner in the Mililani Tech Park since 2007. During its time in the community, it has seen many new tenants and owners come in over the years. We believe and support the First Responder Technology campus proposed to be built at the end Kahelu Avenue. Having a first rate state of the art facility to train and facilitate all the activities of all branches of first responders is critical to the State of Hawaiʻi and Oʻahu. We believe that the site chosen provides the best location that minimizes the impacts to its surrounding neighborhood.	The HTDC acknowledges the comments provided by Hawaiʻi Self Storage and appreciates the support for the project.	N/A
11/9/2021	Calvert Chun - 100 Kahelu Ave	Since 2006, my family owns the former Castle & Cooke building in the tech park, located at 100 Kahelu Ave. Our tenants are mostly medical providers, dentistry, engineering firm, autism clinic, Easter Seals, dermatology clinic, 2 psychologist clinics, pain center, insurance company, real estate offices, adult rehabilitation clinic. We have roots in the Mililani/Wahiawa community and know many local residents. We support the First Responder Technology Campus which is proposed to be built on the far east side of the tech park. That area is ideal, as it is isolated, secured, and with minimum or no community impacts. Furthermore, the park enjoys very good H-2 freeway access, uncrowded streets, and was	The HTDC acknowledges the comments provided and appreciates the support for the project.	N/A

Date Received	Agency/Organization /Sender	Comment	Response	Referenced Section
		developed as a campus setting which would be ideal for the FRTC.		
11/9/2021	David Primiano	I would like to comment regarding the above matter which appeared in the Environmental Notice on November 8, 2021. I grew up in Wahiawā and still live there. My mother's family is from Wahiawā as well. I am a retired HPD officer, my last assignment was the Wahiawa Station. I am very familiar with the community and surrounding areas. I support the FRTC concept and believe it will benefit the state's numerous law enforcement agencies. They all have common goals which is to provide a safe and enjoyable lifestyle not only for residents but visitors as well. The campus should provide consistent basic training that can also be customized to each agency's specialties. There are many times where multi-agency operations include city, state and federal organizations who work together jointly. With training provided at one location, instructors as well as attendees will have better communication, easier access to each other and quicker exchange of information. I see a great benefit to creating such a facility as there will be easy access via the freeway with minimal traffic affecting the town.	The HTDC acknowledges the comments provided and appreciates the support for the project.	N/A
11/9/2021	Roy Yamaguchi	I support the First Responder concept at the Mililani Tech Park. Although I was raised and educated in Honolulu, currently I am employed in the high-tech industry in California but am operating remotely from my home in Hawaiʻi. The idea of one central hub location for police,	The HTDC acknowledges the comments provided and appreciates the support for the project.	N/A

Date Received	Agency/Organization /Sender	Comment	Response	Referenced Section
		fire, data storage, public safety, Homeland Sec., EMS, DLNR, UH, FEMA, etc. makes sense. Furthermore, the far east side of the tech park is ideal as it's a central location on O‘ahu, yet away from residents. All of us have to think about and plan for future generations. I see great benefit for Hawai‘i residents, the agencies involved, and the State.		
11/12/2021	Glenn Shiroma	I am in favor of a First Responder Technology Campus in Mililani Tech Park. I worked as a manager for Verizon Wireless Hawai‘i for 20 years. Although I was not on the engineering side, my understanding is that one of the key reasons for the company selecting the tech park for its switch location is because of the high elevation above sea level. I note that even AT&T and Spectrum also have their switches in the tech park. With the reality of climate change, someday large parts of Honolulu likely would be subject to flooding. The tech park location also makes sense because it's not close to residences and it enjoys excellent freeway access.	The HTDC acknowledges the comments provided and appreciates the support for the project.	N/A
11/12/2021	City and County of Honolulu, Department of Community Services	Thank you for your Environmental Impact Statement Preparation Notice (EISPN) for the First Responder Technology Campus project in Mililani. Our review indicates that the proposed project will have no adverse impacts on any Department of Community Services activities or projects in the surrounding neighborhood.	The HTDC acknowledges the City and County of Honolulu, Department of Community Services' comments that the project will have no adverse impacts on the department's activities or projects in the surrounding neighborhood.	N/A

Date Received	Agency/Organization /Sender	Comment	Response	Referenced Section
11/14/2021	Carl Young	I support the First Responder Tech Campus at the Mililani tech park because it makes sense to have the various public service governmental agencies in a central location and the tech park is ideal. Years ago my wife and I lived in Mililani. I have a son and daughter (both civil engineers) that will probably be living and working in West O‘ahu. Employment opportunities for young people in this area will benefit from opportunities in this community. The FRTC would help in this regard.	The HTDC acknowledges the comments provided and appreciates the support for the project.	N/A
11/14/2021	Glenn Miyashita	I am in favor of a First Responder Technology Campus in the Mililani Tech Park. I retired from Hawaiian Electric Company as an engineer with 35 years of service. I support the FRTC concept and believe it will create synergistic benefit for the state's numerous public agencies. The campus should provide consistent basic training that can also be customized to each agency's specialties. There will be much better communication, exchange of information, and coordination.	The HTDC acknowledges the comments provided and appreciates the support for the project.	N/A
11/16/2021	Office of Hawaiian Affairs	The Office of Hawaiian Affairs (OHA) is in receipt of your letter dated October 25 regarding early outreach for the preparation of an Environmental Impact Statement (EIS) and release of an EIS Preparation Notice (EISPN) being done pursuant to Hawai’i Revised Statutes (HRS) 343 for the State of Hawai’i First Responder Technology Campus in Mililani, O’ahu. The letter indicates that originally a Final EIS was prepared in 1985 for the nearby Mililani Tech Park which did include an idea for an “industrial campus” on the proposed parcel. As	The HTDC acknowledges the comments provided by the Office of Hawaiian Affairs regarding recommended individuals/entities to consult during the EIS process. The Wahiawā Hawaiian Civic Club and Tom Lenchenko have been consulted as part of the Draft EIS process. In addition, OHA will be notified of the Draft EIS publication and will be consulted during the HRS 6E-8 process.	Section 3.15

Date Received	Agency/Organization /Sender	Comment	Response	Referenced Section
		the new campus differs from the original idea, a new EIS will be prepared. The new facility is envisioned to be a state of the art facility and included various uses ranging from office, classroom and warehouse uses, fitness facilities, indoor shooting range and other various types of training facilities for first responder agencies. At this time, OHA recommends consultation with the following individuals/entities as part of the early outreach effort: -Wahiawa Hawaiian Civic Club -Tom Lenchenko (tlenchanko1@hawaii.rr.com) OHA looks forward to reviewing the draft EIS when it is ready for review and participating in the HRS 6E-8 process whenever it is initiated. Please let me know if you have any questions for OHA at this time.		
11/16/2021	City and County of Honolulu, Department of Parks and Recreation	The Department of Parks and Recreation has no comment and as the project will not impact any facility or program of the department you may remove us as a consulted party to the balance of the Environmental Impact Statement process.	The HTDC acknowledges the City and County of Honolulu, Department of Parks and Recreation comment that the project will not impact any of the department's facilities or programs, and thus the DPR can be removed as a consulted party for the remainder of the EIS process.	N/A
11/18/2021	Honolulu Fire Department	In response to your letter dated November 5, 2021, regarding the abovementioned subject, the Honolulu Fire Department (HFD) reviewed the submitted information and requires that the following be complied with: 1. Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet (46 meters)	The HTDC acknowledges the comments provided by the Honolulu Fire Department and offers the following responses: 1. The proposed project will comply with fire safety design requirements for building and facility construction, including the provision of fire department access roads. 2. The project will provide appropriate water supply to supply the required fire flow for fire	Section 3.9

Date Received	Agency/Organization /Sender	Comment	Response	Referenced Section
		from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1; 2018 Edition, Sections 18.2.3.2.2 and 18.2.3.2.2.1, as amended.) A fire department access road shall extend to within 50 feet (15 meters) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. 2. An approved water supply capable of supplying the required fire flow for fire protection, shall be provided to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed, or moved into or within the county. When any portion of the facility or building is in excess of 150 feet (45,720 milimeters) from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ [Authority Having Jurisdiction]. (NFPA 1; 2018 Edition, Section 18.3.1, as amended.) 3. The fire department access roads shall be in accordance with Section 18.2.3. (NFPA 1; 2018 Edition, Section 18.2.3) 4. Submit civil drawings to the HFD for review and approval.	protection, and will also provide fire hydrants and mains where necessary, as required by the NFPA. 3. The project will provide fire department access roads in accordance with NFPA Section 18.2.3. 4. Civil drawings will be submitted to the HFD for review and approval.	
11/23/2021	United States Department of the Interior, Fish and Wildlife Service,	Thank you for your recent correspondence requesting technical assistance on species biology, habitat, or life requisite requirements. The Pacific Islands Fish and Wildlife Office (PIFWO) of the U.S.	The HTDC acknowledges the PIFWO's comments regarding protected species and designated critical habitats. A Biological Survey Report has been prepared for the Draft EIS to identify	Sections 3.5 and 3.6

Date Received	Agency/Organization /Sender	Comment	Response	Referenced Section
	Pacific Islands Fish and Wildlife Office	Fish and Wildlife Service (Service) appreciates your efforts to avoid or minimize effects to protected species associated with your proposed actions. We provide the following information for your consideration under the authorities of the Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531 et seq.), as amended. Due to significant workload constraints, PIFWO is currently unable to specifically address your information request. The table below lists the protected species most likely to be encountered by projects implemented within the Hawaiian Islands. Based on your project location and description, we have noted the species most likely to occur within the vicinity of the project area, in the ‘Occurs In or Near Project Area’ column. Please note this list is not comprehensive and should only be used for general guidance. We have added to the PIFWO website recommended conservation measures intended to avoid or minimize adverse effects to these federally protected species and best management practices to minimize and avoid sedimentation and erosion impacts to water quality. If your project occurs on the island of Hawai‘i, we have also enclosed our biosecurity protocol for activities in or near natural areas. If you are representing a federal action agency, please request an official species list following the instructions at our PIFWO website. Under section 7 of the ESA, it is the Federal agency’s (or their non-Federal designee) responsibility to make the determination of	potential protected species and designated critical habitats that may occur in or near the project site. Section 3.6 includes a discussion on the identified species and critical habitats found to be within the project site, and the proposed mitigation measures to minimize effects to protected species associated with the proposed actions. In addition, Section 3.5 includes best management practices that will be adhered to in order to minimize and avoid sedimentation and erosion impacts to water quality.	

Date Received	Agency/Organization /Sender	Comment	Response	Referenced Section
		whether or not the proposed project "may affect" federally listed species or designated critical habitat. A "may affect, not likely to adversely affect" determination is appropriate when effects to federally listed species are expected to be discountable (i.e., unlikely to occur), insignificant (minimal in size), or completely beneficial. This conclusion requires written concurrence from the Service. If a "may affect, likely to adversely affect" determination is made, then the Federal agency must initiate formal consultation with the Service. Projects that are determined to have "no effect" on federally listed species and/or critical habitat do not require additional coordination or consultation. Implementing the avoidance, minimization, or conservation measures for the species that may occur in your project area will normally enable you to make a "may affect, not likely to adversely affect" determination for your project. If it is determined that the proposed project may affect federally listed species, we recommend you contact our office early in the planning process so that we may assist you with the ESA compliance. If the proposed project is funded, authorized, or permitted by a Federal agency, then that agency should consult with us pursuant to section 7(a)(2) of the ESA. If no Federal agency is involved with the proposed project, the applicant should apply for an incidental take permit under section 10(a)(1)(B) of the ESA. A section 10 permit		

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		application must include a habitat conservation plan that identifies the effects of the action on listed species and their habitats and defines measures to minimize and mitigate those adverse effects. We appreciate your efforts to conserve endangered species. We regret that we cannot provide you with more specific protected species information for your project site.		
11/30/2021	City and County of Honolulu, Department of Design and Construction	Thank you for the opportunity to review and comment. Our Facilities Division has comments. The City agencies that have participated in the Charrette sessions have not involved the Department of Design and Construction (DDC). As a consequence, DDC has not had the opportunity to participate in a technical review of the proposal for our City agencies. Based on a cursory review of the information, we see that exhibits which show the plots as an oval track configuration which we would not find acceptable. Creating circular pie shape parcels will result in the inefficient use of the area which is intended to be warehouses and offices. We would request that the parcels be laid out in a more conventional layout to create rectangular building parcels which will make more efficient use of the area. For any future Charrette sessions, DDC should also be invited to be present.	The HTDC acknowledges DDC's comment on the layout of the proposed project. The “oval track” configuration was developed to address the site’s various training, traffic, topography, and perimeter fence security requirements; as well as its remote end-of-the-road location.	N/A
12/3/2021	Hawaiian Electric Company	Thank you for the opportunity to comment on the subject project. In alignment with the State of Hawai‘i’s first responders, Hawaiian Electric places a high priority on public safety, readiness, and	The HTDC acknowledges Hawaiian Electric's comments. The existing easements within the project site will not be affected, and access for Hawaiian Electric will be maintained.	Section 3.9

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		resilience. The company will continue to work closely with the State and Counties to ensure their access to reliable and secure energy. Hawaiian Electric has no objection to the project. Should Hawaiian Electric have existing easements and facilities on the subject property, we will need continued access for maintenance of our facilities. We appreciate your efforts to keep us apprised of the subject project in the planning process. As plans for the proposed First Responder Technology Campus project move forward, please continue to keep us informed.		
12/7/2021	State of Hawai'i, Department of Land and Natural Resources, Engineering Division	The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high-risk areas). State projects are required to comply with 44CFR regulations as stipulated in Section 60.12. Be advised that 44CFR, Chapter 1, Subchapter B, part 60 reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards. The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zones are designated on FEMAs Flood Insurance Rate Maps (FIRM). The official FIRMs can be accessed through FEMA' s Map Service Center. Our Flood Hazard Assessment Tool (FHAT)	The HTDC acknowledges the DLNR Engineering Division's comments regarding compliance with the NFIP and requirement to provide water demands and calculations. The proposed project is within Zone D per the FEMA's FIRM. Zone D is defined as "areas in which flood hazards are undetermined, but possible" and is not considered to be a Special Flood Hazard area. The estimated water demands and calculations for the proposed project is provided in Section 3.9 of the Draft EIS. The project will meet all fee requirements set forth by the Board of Water Supply to provide water services to the project site.	Sections 3.4 and 3.9

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		could also be used to research flood hazard information. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP coordinating agency. The applicant should include water demands and infrastructure required to meet project needs. Please note that all State projects requiring water service from their local Department/Board of Water Supply system will be required to pay a resource development charge, in addition to Water Facilities Charges for transmission and daily storage. The applicant is required to provide water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update projections.		
12/8/2021	State of Hawai'i, Department of Transportation	Access to the project site is proposed to be via Kahelu Avenue which becomes Leilehua Golf Course Road which intersects with the H-2 Freeway approximately 0.9 miles away and the Kamehameha Highway (State Route 99) approximately one mile away from the project site. HDOT has the following comments: <u>Airports Division (HDOT-A)</u> 1. The project is proposing to build a helipad on the campus. The Federal Aviation Administration (FAA) regulation requires the submittal of FAA Form 7480-1 Notice for Construction Alteration and Deactivation of Airports pursuant to the Title 14 CFR, Part 157 for constructing or establishing a	The HTDC acknowledges the comments provided by the HDOT's Airports, Harbors, and Highways Divisions and provides the following responses: <u>Airports Division</u> 1. A helipad was originally envisioned to be included at the FRTC on the roof of the parking structure, and it was identified in the EISPN published on November 8, 2021. The proposed use of a helipad at the FRTC has been removed from further consideration as part of the proposed action within the Draft EIS. Should the helipad be constructed in the future, the appropriate documentation pursuant to Chapter 343, HRS will be prepared to further assess the	Section 3.10

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		new heliport or activating a heliport. Please note that latitude, longitude, ground elevation, and above ground elevation data will be needed to complete the form. 2. The Proposed Action in Section 2.3, page 10 (PDF viewer p. 23), item #9, lists the State of Hawai‘i, Department of Transportation, Airport Rescue Fire Fighters (ARFF), as one of the participating agencies. The project location is outside of HDOT-A’s area of operation, and participation by ARFF violates grant assurances by the State of Hawai‘i to the FAA. HDOT-A has reached out to the FAA to discuss ARFF’s participation in the Proposed Action, as discussed in Section 2.3 and other sections throughout the document [i.e., List of Acronyms (page v) and Table 5: List of Agencies and Parties to be Consulted (page 53)]. HDOT-A’s participation and full commitment to the Proposed Action are subject to discussions with the FAA and will have more comments when the Draft Environmental Impact Statement (EIS) is published for public review. <u>Harbors Division (HDOT-H)</u> 1. HDOT-H has participated in the early planning of the FRTC concept and has provided input about HDOT-H’s needs and possible uses of the facility. 2. HDOT-H supports the creation of the FRTC. <u>Highways Division (HDOT-HWY)</u> 1. Based on a review of the provided project information, the HDOT-HWY anticipates a potential adverse impact to State highways.	impacts to the surrounding environment. In addition, the FAA Form 7480-1 Notice for Construction Alteration and Deactivation of Airports will be submitted. 2. The HTDC acknowledges this comment and will address any future comments provided by HDOT-A on the Draft EIS. <u>Harbors Division</u> 1. The HTDC acknowledges this comment and HDOT-H's needs as provided during the FRTC's charrette process. 2. The HTDC acknowledges and appreciates the HDOT-H's support of the project. <u>Highways Division</u> 1. A TIAR has been prepared for the Draft EIS and is included in Appendix G. Section 3.10 includes a summary of the TIAR that addresses and/or includes the information requested in line items a. through d. 2. On April 20, 2022 the HDOT-HWY concurred with the study area identified in the TIAR via email correspondence.	

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		HDOT-HWY requests the submittal of a Traffic Assessment (TA) or Traffic Impact Analysis Report (TIAR) prepared and stamped by a licensed engineer. The TA or TIAR, and Draft EIS should include: a. A description of existing traffic conditions and use of multimodal routes in the study area. b. Forecasted traffic and multimodal conditions in the horizon year (year at full project build-out), without and with the project, and including trips generated by planned developments in the study area. c. An analysis of project-related direct, indirect, and cumulative transportation impacts, including impacts associated with multimodal transportation and safety. d. Recommended mitigation for impacts to transportation. 2. The Applicant shall coordinate with HDOT-HWY to determine the study area by considering intersections along State highways where a change in peak hour traffic volume due to the development is greater than 3 percent.		
12/8/2021	City and County of Honolulu, Department of Planning and Permitting	This is in response to the EISPN for the proposed First Responders Technology Campus, published in the November 8, 2021 edition of The Environmental Notice. The Department of Planning and Permitting (DPP) offers the following comments: <u>General Plan</u> 1. Revisions to the General Plan were recently adopted by the City Council on December 1, 2021	The HTDC acknowledges the comments provided by DPP and provides the following responses: <u>General Plan</u> 1. Section 4.6 of the Draft EIS includes a discussion on the proposed project's consistency with the recently revised General Plan that was adopted by the City Council on December 1, 2021.	Section 3.4, 3.7, 3.8, 3.9, 4.6, 4.7, and 10.2

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		(Resolution 21-23, CD1). Please update your reference to the General Plan as well as your discussion on the proposed project's consistency with the recently revised General Plan and its objectives and policies. <u>Central O‘ahu Sustainable Communities Plan (CO SCP)</u> 2. The Draft Environmental Impact Statement (DEIS) should address how the proposed project supports the Vision of the 2021 CO SCP and each of the key elements. 3. The DEIS should address the Land Use Policies and Guidelines of the CO SCP, including, but not limited to Section 3.1 Open Space Preservation and Development and Section 3.5 Natural Resources Protection. 4. The 2021 CO SCP describes a future First Responders Technology Campus occupying 150 acres on land that was previously planned to be the second phase of the Mililani Technology Park. The proposed project expands the campus area and scope. Please include a discussion and rationale in the DEIS for the proposed expansion to include an additional 93 acres of land that is, for the most part, currently designated for agriculture and preservation use and currently outside of the State Land Use Urban District. <u>State Land Use District</u> 5. Please consult with the DPP prior to publication of the DEIS to confirm if the proposed project site is within or outside of the Community Growth Boundary.	<u>CO SCP</u> 2. Section 4.8 of the Draft EIS includes a discussion on how the proposed project supports the Vision of the 2021 CO SCP and each of the key elements. 3. Section 4.8 of the Draft EIS includes a discussion on how the proposed project addresses the Land Use Policies and Guidelines of the CO SCP, including Section 3.1 Open Space Preservation and Development and Section 3.5 Natural Resources Protection. 4. Section 4.8 of the Draft EIS includes a description of the proposed uses on Parcel 39, which is the additional 93 acres of land that was not included in the 2021 CO SCP's description of the FRTC. A majority of Parcel 39 will remain undeveloped and will be used for Search and Rescue Training. <u>State Land Use District</u> 5. A meeting with the DPP was held on January 26, 2022 that included a discussion on the proposed project site in relation to the CO SCP Community Growth Boundary, see Section 10.2 of the Draft EIS. 6. The State Land Use District boundary amendment application for the proposed project will include both Parcel 57 and Parcel 39, and thus will be processed by the LUC as the total land acreage included will exceed 15 acres. <u>Land Use Ordinance</u> 7. The Draft EIS includes a discussion on the proposed project in relation to the multiple	

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		6. The proposal includes reclassification of the southwest portion of Parcel 57 and the entirety of Parcel 39 from the State Land Use Agricultural District to the State Land Use Urban District. This State Land Use District boundary amendment will be processed by the State Land Use Commission (LUC). Even if the State Agricultural District portion on Parcel 57 is less than 15 acres, it should be processed by the LUC along with the larger Parcel 39 since it's the same project. <u>Land Use Ordinance (LUO)</u> 7. Parcel 39 is primarily in the AG-1 Restricted Agricultural District and F-1 Military and Federal Preservation District. Parcel 57 is primarily in the AG-1 Restricted Agricultural District with a small portion in IMX-1 Industrial Mixed Use District with a height limit of 40 feet. The DEIS should discuss compliance with the multiple zoning districts within the project area. 8. Pursuant to LUO Section 21-3.40(d), should lands be removed from federal jurisdiction, all uses, structures and development standards shall be as specified for the P-2 General Preservation District. The DEIS should indicate whether the portion of the site in the F-1 Military and Federal Preservation District is still within federal jurisdiction or whether the site is subject to the development standards of the P-2 General Preservation District. 9. Based on the brief summary provided in the EISPN, it appears a wide range of uses is proposed. The DEIS should include details of which agency or	zoning districts within the project area, and how the proposed project intends to be in compliance with the LUO. 8. Section 4.7 of the Draft EIS includes a discussion on the proposed projection in relation to the F-1 Military and Federal Preservation District and how the project intends to be in compliance with the LUO. 9. The management of the daily operations and uses at the FRTC has not been determined at this time. Section 4.7 of the Draft EIS includes a discussion on the proposed land uses and how they may comply with the LUO. 10. Section 3.4 of the Draft EIS includes a discussion on the identified flood hazards within or near the project site. <u>Wastewater</u> 11. Section 3.9 of the Draft EIS includes a discussion on how the project's wastewater needs will be serviced. <u>Impacts to Existing Residential Areas</u> 12. Sections 3.7 and 3.8 of the Draft EIS includes a discussion on the potential air quality and noise impacts to the surrounding environment from the proposed action, and proposed mitigation measures. <u>Emergency Shelters</u> 13. Considerations for the new public buildings to be capable of use as emergency shelters will be considered at the applicable stages of design of the project. <u>Energy Conservation</u>	

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		entity will manage the daily uses of the site and who will have access to the site. Additionally, the DEIS should specify whether the proposed use meets the LUO's definition of public uses and structures. That is, "uses conducted by or structures owned or managed by the federal government, the State of Hawai‘i or the city to fulfill a governmental function, activity or service for public benefit and in accordance with public policy. Excluded are uses which are not purely a function, activity or service of government and structures leased by government to private entrepreneurs or to nonprofit organizations. Typical public uses and structures include: libraries, base yards, satellite city halls, public schools and post offices." If the proposed uses will not be used as public uses and structures, the DEIS should describe what the land uses are and how they will comply with the LUO.	14. Considerations for reduced/renewable energy system integration into the new buildings will be considered at the applicable stages of design of the project.	
		10. Flood hazards are undetermined for both sites. The DEIS should include information about flood hazards, particularly in proximity to Waikakalaua Stream. <u>Wastewater</u> 11. The project site is currently not serviced by the municipal wastewater system. The DEIS should address how the proposed project will be serviced. <u>Impacts to Existing Residential Areas</u> 12. The activities associated with the outdoor training area (emergency response training, driver training facilities, and the Emergency Vehicle Operator Course) and the search and rescue		

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		training area could have negative impacts, such as noise, dust, lights, and smoke etc., upon the surrounding residential areas. These impacts should be fully disclosed and proposed mitigation measures should be included in the DEIS. Emergency Shelters 13. The DEIS should discuss considerations in the design of the new public buildings to have them be capable of use as emergency shelters. Energy Conservation 14. The DEIS should discuss considerations for reduced/renewable energy system integration in the new buildings.		
12/10/2021	State of Hawai‘i, Department of Health, Clean Air Branch	Standard Comments for Land Use Reviews - Clean Air Branch, Hawai‘i State Department of Health If your proposed project: Requires an Air Pollution Control Permit You must obtain an air pollution control permit from the Clean Air Branch and comply with all applicable conditions and requirements. If you do not know if you need an air pollution control permit, please contact the Permitting Section of the Clean Air Branch. Includes construction or demolition activities that involve asbestos You must contact the Asbestos Abatement Office in the Indoor and Radiological Health Branch. Has the potential to generate fugitive dust You must control the generation of all airborne, visible fugitive dust. Note that construction activities that occur near to existing residences,	The HTDC acknowledges the standard comments for land use reviews from the Clean Air Branch, Hawai‘i State Department of Health. A discussion on the air quality impacts and mitigation measures is included in Section 3.7 of the Draft EIS. The proposed project will comply with the conditions and requirements that are applicable to the project's construction activities and/or proposed operations.	Section 3.7

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		business, public areas and major thoroughfares exacerbate potential dust concerns. It is recommended that a dust control management plan be developed which identifies and mitigates all activities that may generate airborne, visible fugitive dust. The plan, which does not require Department of Health approval, should help you recognize and minimize potential airborne, visible fugitive dust problems. Construction activities must comply with the provisions of Hawai‘i Administrative Rules, §11-60.1-33 on Fugitive Dust. In addition, for cases involving mixed land use, we strongly recommend that buffer zones be established, wherever possible, in order to alleviate potential nuisance complaints. You should provide reasonable measures to control airborne, visible fugitive dust from the road areas and during the various phases of construction. These measures include, but are not limited to, the following: a) Planning the different phases of construction, focusing on minimizing the amount of airborne, visible fugitive dust-generating materials and activities, centralizing on-site vehicular traffic routes, and locating potential dust-generating equipment in areas of the least impact;		
		b) Providing an adequate water source at the site prior to start-up of construction activities; c) Landscaping and providing rapid covering of bare areas, including slopes, starting from		

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		the initial grading phase; d) Minimizing airborne, visible fugitive dust from shoulders and access roads; e) Providing reasonable dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and f) Controlling airborne, visible fugitive dust from debris being hauled away from the project site.		
12/13/2021	City and County of Honolulu, Department of Transportation Services	Thank you for the opportunity to provide written comments regarding the subject project. We have the following comments. 1. Transportation Impact Assessment (TIA). The applicant shall perform a TIA to examine the vehicle, pedestrian, bicycle, and public transit stress and comfort levels at the nearby intersections and driveways with corresponding improvements to mitigate these impacts by applying Complete Streets principles. The applicant shall discuss the future year growth rate, trip generation, trip distribution, mode split, and route assignment assumptions used in the TIA. The TIA should identify an appropriate speed limit for the streets adjacent to the project by analyzing conflict density and activity level, among other contextual factors, to determine the speed limit that will best minimize the risk of a person being killed or seriously injured. The National Association of City Transportation Officials Safe Speed Study methodology is recommended. A Safe Speed Study should be conducted for the longest relevant segment of a street corridor	The HTDC acknowledges DTS' comments and provides the following responses: 1. A TIAR has been prepared for the Draft EIS and is included in Appendix G. Section 3.10 includes a summary of the TIAR that addresses and/or includes the information requested, including a Safe Speed Study and future year transportation conditions. 2. Parking demands generated by the FRTC and the private developments are proposed to be met by providing parking on-site, and it is not anticipated that there would be an additional demand for off-street parking that would impact Kahelu Avenue. 3. The HTDC acknowledges DTS' comments regarding Complete Streets recommendations. The TIAR included the recommendations provided by DTS. More details on incorporating Complete Streets improvements in the project and/or surrounding area will be determined in later phases of design. 4. The Draft EIS addresses the following comments:	Section 2.3 and 3.10

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		affected by the project. The applicant shall submit all native files (e.g. Synchro, Excel, etc.) for the raw multi-modal counts and accompanying analyses to the Regional Planning Branch at dtsplanningdiv@honolulu.gov. Please refer to the Department of Transportation Services (DTS) TIA Guide for multimodal assessment tools and recommended analyses. The TIA shall also address future year transportation conditions, which align with project Phases A to F. The analysis should be based on the travel demand model forecasts for the selected future year, and shall include project generated traffic, proposed geometric changes to City roadways, trips generated by nearby current and future projects which will be complete by the selected future year, and any trip capture from mixed-used development. 2. Parking. A discussion regarding off-street parking and site generated parking demand should be added to this report. 3. Complete Streets. The TIA shall include a discussion of the following: i. The proposed driveway/entry road to the project shall be designed to minimize conflicts between entering/turning vehicles and bicyclists on the existing Kahelu Avenue bike lane. ii. Investigate the possibility of linking the project to the existing Kahelu Avenue bike lane. iii. The management entity or owners' association should adopt (i.e., be responsible for litter removal, cleaning and maintenance of bus stop	i. As mentioned in Section 2.3, the hotel/overnight accommodation facilities will be open to the general public. It is anticipated that the demand for overnight accommodations will primarily come from the FRTC trainees and nearby surrounding military, government, and business uses. ii. The Street Usage Permit has been added to Table 3. 5. The Street Usage Permit has been added to Table 3. 6. The area representatives, neighborhood boards, residents, and surrounding landowners have been, and will continue to be, consulted during the EIS process. A summary of the consultation conducted thus far is included in Section 10.0. 7. The DCAB will be consulted when project plans for vehicular and pedestrian circulation, sidewalks, parking and pedestrian pathways, vehicular ingress/egress, etc. are available.	

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		shelter, benches and floor area) any anticipated future bus stops fronting the project site at no cost to the City. iv. The applicant shall make a contribution for complete streets improvements as recommended by the forthcoming TIA. 4. Environmental Impact Statement Preparation Notice. The Draft Environmental Impact Statement (DEIS) shall address the following items: i. Section 2.3, Pages 13-14. Specify whether the Hotel/Overnight Accommodations facilities will be open to the general public, or only for authorized personnel and their guests. ii. Section 2.5, Page 20. Add City and County Department of Transportation Services, Street Usage Permit to Table 2. Kahelu Avenue is under City jurisdiction until the unpaved section. 5. Street Usage Permit. A street usage permit from the DTS shall be obtained for any construction-related work that may require the temporary closure of any traffic lane or pedestrian mall on a City street. 6. Neighborhood Impacts. The area representatives, neighborhood board, as well as the area residents, businesses, emergency personnel (fire, ambulance, and police), O‘ahu Transit Services, Inc. (TheBus and TheHandi-Van), etc., shall be kept apprised of the details and status throughout the project and the impacts that the project may have on the adjoining local street area network. 7. Disability and Communication Access Board		

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		(DCAB). Project plans (vehicular and pedestrian circulation, sidewalks, parking and pedestrian pathways, vehicular ingress/egress, etc.) shall be reviewed and approved by DCAB to ensure full compliance with Americans with Disabilities Act requirements.		
12/27/2021	State of Hawai'i, Department of Accounting and General Services	Thank you for the opportunity to comment on the subject project. We have no comments to offer at this time as the proposed project does not impact any of the Department of Accounting and General Services' projects or existing facilities. However, as we serve many of the agencies to be located in the facility, we would like to be kept informed of the progress and may offer comments at a later date.	The HTDC acknowledges that the State Department of Accounting and General Services does not have any comments to offer at this time.	N/A
12/30/2021	State of Hawai'i, Office of Planning and Sustainable Development	The Office of Planning and Sustainable Development offers the following comments: 1. Acreage for State Land Use Reclassification The Draft Environmental Impact Statement (DEIS) should identify the total number of acres within the project site that will require reclassification from the State Land Use Agricultural to the Urban District, including the number of Agricultural District acres within Parcel 057. 2. Relocation of Agency Headquarters The DEIS should provide an inventory of the government agencies anticipated to relocate their headquarters to the FRTC and the current location of these headquarters. An estimate of the total expected number of permanent and part-	The HTDC acknowledges OPSD's comments and provides the following responses: 1. Acreage for State Land Use Reclassification The total number of acres within the project site that will require reclassification from the State Land Use Agricultural to Urban District is 104.605 acres. This includes the 11.605 acres of Agricultural District lands within Parcel 057, along with the 93 acres within Parcel 039. This has been included in Section 4.2. 2. Relocation of Agency Headquarters The Draft EIS includes a list of the government agencies anticipated to be located at the First Responder Technology Campus (FRTC) and a map showing the location of their offices. It is estimated that up to 1,400 – 1,800 users could be at the FRTC at any given time; this number consists of first responder agency employees,	Section 4.2

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		time facility staff and users and FRTC hours of operation should also be provided. 3. Workforce Housing The DEIS should disclose whether the workforce housing units is expected to be for sale or rental, and the area median income level the units will be targeted to. 4. Parcel 039 Outdoor Training Facility The DEIS should discuss the nature (e.g., are live fire exercises planned?), extent, and general hours of operation the outdoor training facility on Parcel 039 is expected to be used. Potential impacts to the Waikakalaua Stream and the adjacent Mililani Mauka residential subdivision (see EISPN Figure 1) should be addressed. 5. Development Timetable The FRTC is expected to be built in six phases over a period of 15 years beginning in 2023. According to the EISPN, the first four phases of the project, covering most of the land in Parcel 057, are expected to be completed by 2033. (EISPN pgs. 14-15 and Figures 2-5.) Phase E of the project is anticipated to be constructed from 2034-2036 and Phase F, including the entire Parcel 039, is not expected to be constructed until 2037-2038. Projects seeking State Land Use reclassification are required to be substantially completed within ten years or seek incremental approvals (Hawaii Administrative Rules, § 15-15-50 (c) (20)). The DEIS should discuss incremental State Land Use	facility staff, and users of the hotel/dormitory, workforce housing, and business mixed use areas. 3. Workforce Housing The details of the workforce housing units will be determined in the future phases of the project. 4. Parcel 039 Outdoor Training Facility The project proposes to include an access road to Parcel 039 as well as office and warehouse space. A majority of the parcel will remain undeveloped and will be used as a Search and Rescue Training Area. The Waikakalaua Stream will not be affected or impacted by the development of the proposed project or the intended use of the parcel. 5. Development Timetable The HTDC acknowledges this comment. A discussion on State Land Use reclassification is included in Section 4.2	

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		reclassification approval starting with Parcel 057 and subsequent reclassification approval of Parcel 039 in 2033.		

10.5 Neighborhood Board Meetings

The proposed location of the FRTC is located within the Wahiawā – Whitmore Village Neighborhood Board No. 26 district boundary, however it is located on the perimeter of the boundary of the Mililani Mauka/Launani Valley Neighborhood Board No. 35. Thus, both neighborhood boards have been, and will continue to be, consulted during the development of the project. A summary of the presentations made to both neighborhood boards is described below.

Mililani Mauka/Launani Valley Neighborhood Board No. 35
The project team presented the FRTC project to the neighborhood board at their monthly meeting held on January 18, 2022. The meeting was held virtually via Webex. Official minutes from the Mililani Mauka/Launani Valley Neighborhood Board meeting is included in Appendix M.

A PowerPoint presentation was made to the board, which covered the background, purpose and need, project location, proposed action, timeline, and EIS process. A copy of the PowerPoint presentation is included in Appendix M. The following is a summary of the questions and comments made following the presentation:

Alice Rogers (board member)

- Saw that there was an article in the newspaper about the project; it wasn't necessarily complimentary
    - Response: The project team is aware of the article. The article could have been better, but everyone is entitled and encouraged to give us comments; we take it all as feedback. The Star Advertiser did a cover piece and then an editorial. It's unfortunate that they didn't do a deeper dive into the needs of the agencies because they criticized the cost, but they didn't do a story on the agencies' needs and what they're currently paying in rent and training costs.

There were no other questions or comments from the rest of the community. The neighborhood board and community members were informed that the same presentation is available on the project website; a link to the website was posted in the meeting chat box.

Wahiawā-Whitmore Village Neighborhood Board No. 26
The project team presented the FRTC project to the neighborhood board at their monthly meeting held on February 28, 2022. The meeting was held in-person at the Kapālama Hale, Suite 153, with an option to join virtually via Webex. Official minutes from the Wahiawā-Whitmore Village Neighborhood Board meeting is included in Appendix M.

The same PowerPoint presentation that was presented to the Mililani Mauka/Launani Valley Neighborhood Board was shared with the Wahiawā-Whitmore Village Neighborhood Board. The following is a summary of the questions and comments made following the presentation.

Captain Mark Takahashi (HFD)

- It was mentioned that construction would start in 2023. Has funding already been appropriated?
    - Response: Funding hasn't been appropriated yet, but the hope is that there will be funding secured to start construction in 2023.
- Has any of the chiefs been involved to provide input?
    - Response: Yes, HFD chiefs have provided input on the project.

Lei Learmont (board member)

- What is "workforce housing"? Are you expecting to hire non-local people and house them there? Why would local residents need to use workforce housing?
    - Response: The intent of the workforce housing is to serve the community. There is a general need for more housing on the island.
    - Chair Jeanne Ishikawa commented that workforce housing is more often used for agriculture and similar uses and provided the example of the nearby food hub project that proposed to include workforce housing.
    - Response: Workforce housing is proposed to be included as a part of the project since it cannot be assumed that all residents, including those who are employed by the agencies that will be at the FRTC, owns a home, has housing, or lives in Central O'ahu.
    - Lei responded that she thinks it is important to protect available housing for local people, and not build more housing for people getting hired from the mainland.
    - Response: Will note Lei's concern; the workforce housing development and requirements will be better defined as the project develops.
- What are the impacts to Launani Valley? What kind of impacts would the residents face during construction?
    - Response: The project team presented to the Mililani Mauka/Launani Valley Neighborhood Board last month. The project proposes to keep as much of the trees and vegetation on the southern border as a buffer between the residential community. Most of the uses are in the northern portion of the parcel.
    - Representative Amy Perruso added that the project team did a presentation at her Third Thursday event and had answered a lot of the community's questions. The Launani Valley community had attended and asked questions, and there were discussions on widening roads and modifying on/off ramps. A recording of the presentation is posted on Representative Perruso's Facebook page as an added resource to those who want to review and listen to the questions answered. The following Section 10.6 includes a summary of this presentation.

Michele Umaki (board member)

- Inquired on what is meant by "entitlements". Saw that there has been money used for the design; is this money also used to purchase the land?

    - Response: The land for the proposed project site has already been purchased, but the land entitlements including zoning, State Land Use, and others will need to be updated to allow for the use of the FRTC, prior to construction of the project.
- Wanted to clarify how much of the land that is left in the MTP is going to be used for the project?
    - Response: The project will not be located in MTP Phase I; it will be located on the parcels that were proposed to be developed into MTP Phase II.
    - Michele commented that originally the area was intended to be used for biotechnology, communications, technology, etc., but it seems like now there won't be any room for that?
    - Response: Correct, all the previous plans for MTP Phase II will be replaced by this project.
- Is the shooting range going to be open to the public?
    - Response: No, it will only be used by first responder agencies.

Donald Aweau (board member)

- Is there going to be any aerial traffic? There's already aerial type traffic in the East Range. Will you utilize Wheeler Army Airfield?
    - Response: There will be no aerial traffic on this parcel.
- Will there be any training on military land.
    - Response: There will be no training in the East Range.
- Is this going to be a 24-hour facility?
    - Response: Yes, this will be a 24-hour facility.
- Will there be underground facilities? Concern is that problems could occur similar to what is currently happening at Red Hill.
    - Response: Yes there will be an indoor shooting range in the basement of the parking structure, and also physical training facilities. The buildings may also have basements.

Kimberly Sanchez (board member)

- Will there be underground bunkers at the facility?
    - Response: No, that was not identified as a "need" during the charrette.
    - Kimberly asked if that is something that would be considered?
    - Response: It would be up to the agencies. The first phase is only the backbone infrastructure to support the buildout. Each agency will build their own facility, which will be designed later. It could be a possible consideration.
- Will there be training on preventing communication attacks?
    - Response: One of the agencies is OETS, and their office is currently located in a basement under sea level. They want to transfer their office and operations to somewhere more secure. Some of the training would be located at the FRTC too, and they would use the facilities for cybersecurity training. Those types of uses and training is intended to be private and not open to the public, thus it would be

beneficial if they could have training at the FRTC instead of someplace like the Hawai'i Convention Center.

Resident Cross (community member)

- Is the goal for this campus to move all the academies of the first responder agencies to this campus? Is there a possibility of using the existing facilities for other things since the FRTC will be using a lot of land?
    - Response: Some of the agencies don't have their own facilities and they currently rent space, so they are just looking for a place to have all their equipment, offices, etc. in one place. But yes, it would free up places that they're currently renting, and would provide cost benefits to the agencies.
- With such a large training facility, do you think that it would mitigate the shortage of first responder personnel?
    - Response: We can't speak on behalf of the agencies, but if we can showcase that we have a state-of-the-art facility, we would raise the bar for training and the agencies. Recruitment and retention are the responsibility of the agencies.

Jeanne Ishikawa (chair)

- When the project is developed, how will the campus be accessed and what will be the traffic impact? What is the traffic plan to mitigate traffic in Wahiawā? Also wondering how we will keep our personnel and community safe and secure, since there is already one military facility nearby and the FRTC will be located on the other side.
    - Response: In the Draft EIS we will have a traffic assessment, which will take into account the whole buildout of the campus. Based on the assessment, we are currently identifying that by Phase B there will be impacts to traffic on the on/off ramps, so there will be some recommendations and mitigation measure to reduce traffic impacts.
    - Chair Ishikawa expressed her doubts due to the development happening on Kahelu Avenue and all the other development within the area. She expressed her concern that projects often underestimate their impacts on traffic. She understands that it is too early to be implementing improvements but thinks that if there were no traffic improvements made due to the other developments, that the FRTC would most likely not implement any changes or improvements either.
    - Response: Clarified that we are not saying there will be no mitigation measures, just stating that there will be impacts to traffic and that mitigation measures will need to be looked at and assessed. We currently have recommendations on what steps will need to occur to mitigate traffic by Phase B. This is also why it would be beneficial to have a hotel/dormitory facility to reduce the amount of traffic coming in/out of the FRTC.

10.6 Community Meetings

On December 16, 2021, the project team was invited to Representative Amy Perruso's Third Thursday event to provide an informational briefing on the proposed project to the Wahiawā and Launani Valley community. A PowerPoint presentation was made, which covered the background, purpose and need, project location, proposed action, timeline, and EIS process. A copy of the PowerPoint presentation is included in Appendix M. The following is a summary of the questions and comments made following the presentation:

Community Question (presented by Representative Perruso)

- Will there be an autonomous authority that will be responsible for the campus itself?
    - Response: There are 19 Federal, State, and County agencies to be located at the FRTC, and from these agencies there are 48 volunteers or "champions" that form a champion team. The champion team is currently discussing how they will all live and work together on the campus, how they'll share facilities, and how maintenance of the facilities will be handled. Instead of building five of the same facilities for each agency, the FRTC will build one facility that can be shared. The champion team was created to figure out how to share facilities on campus. The team includes a self-elected board of champions and positions such as chair, vice-chair, treasurer, secretary, etc., which rotates every year. In the long-term, the HTDC will most likely hire a property management company to oversee the operations and maintenance of the FRTC. It is envisioned that the champions themselves will continue to have a board to address policy decisions.

Representative Perruso

- Which of the agencies will have the bigger (building) footprints on the campus?
    - Response: HPD and HFD will be the major tenants on the campus. HPD doesn't have warehouse space and they have lots of vehicles to store and a big need to store evidence for long periods of time. HFD has boats and rescue vehicles, and they also have vehicle maintenance training. They are also planning to have a training fire station; the station will provide fire protection to the surrounding neighborhood but will also be available to train recruits.
- Beyond training for fire fighters and HIARNG, are there any other agencies that will conduct training on campus?
    - Response: PSD is one of the largest State agencies that would also be conducting training at the FRTC. They are currently leasing space and paying commercial landlords for training and office space. PSD has a training academy to train our sheriffs and correctional officers. One training class may have as many as 90 cadets.
- For HFD, HPD, and HIARNG the FRTC will be a training facility?
    - Response: Yes, they will all train on campus and share outdoor training facilities. One example of the shared training activities and facilities may include building a

rail system/mock rail so they can train on how to address rail emergency situations.

- Trying to get an idea of the mix of office and administrative facilities versus the training facilities at the campus. Due to the COVID-19 pandemic it seems that people have been assessing how much space is really needed; having the option to telework means that less space is needed.
    - Response: There are agencies like the US-OHSI that would be located at the FRTC, where they have a lot of agents that work outside of their headquarters. Their space, for example, would primarily be for administrative, secretarial, and human resources needs.
- It seems that the project has a lengthy and complicated EIS process. Is there going to be separate EIS' or EIS processes to address the whole project?
    - Response: We are currently working on a programmatic EIS to address the whole project. Once the programmatic EIS is completed, as each agency comes in to build their facility, it is anticipated that they may be required to do a supplemental EIS or an EA for just their portion of development. Over the long-term there will be multiple reviews to assess all the impacts. The project will occur over a long period of time, thus requiring a segmented process.
- In terms of environmental concerns and impacts, there are concerns about runoff and erosion that may impact the lower Launani Valley.
    - Response: These issues are currently being assessed by the engineering team. One measure that is being taken is not getting close to the ravine. The trees will also be kept as a buffer along the border of the parcel. From a drainage perspective, the hillsides have been noted as where erosion is causing problems to Launani Valley neighbors. Nonetheless, Hawai'i laws require us to control drainage on site. The design of the campus will allow the ground to absorb water using detention ponds, fiberglass vaults, and other measures.
- How much ingress and egress do you anticipate on a daily basis? Also, what is the schedule of operation – is this a facility that will be in operation 24-hours a day/7 days a week, and if so, how will impacts be minimized?
    - Response: A traffic assessment will be conducted and will include data provided by DOT, traffic volumes, etc., which will all go into the calculations and analysis. When the SLUC approved MTP Phase II, part of the conditions was that traffic and improvements would have to be restudied to address traffic from the H-2 Freeway. The State government would have to fund the improvements to those highways. From a timing standpoint, occupancy isn't anticipated until 2027. The FRTC would function similar to a university campus where everyone is on different schedules. The only time the campus would be used by all occupants at the same time would be in the state of an emergency, where it is anticipated that all agencies would assemble to coordinate on disaster response. Most of the training would occur during normal business hours; any training at night would occur within the classrooms.
- When the campus is completed, what is the anticipated capacity?

    - Response: By the time the campus is completed, we would estimate to have about 1,000 cars coming to campus. Those kind of traffic numbers would trigger traffic improvements to the roads and freeways coming into the project site.
- Regarding the champions – who is the current chair, vice-chair, etc.?
    - Response: The current chair is a representative from HI-EMA. HI-EMA has a great need and will most likely be one of the first agencies on the campus. The vice chair is a special agent in charge of OHSI. The secretary is from HFD.
- Based on recent conversations regarding Red Hill with BWS' Ernest Lau, if there is no immediate change or upgrade to the water sources on the island, the island may see a shortage of available water, which would limit the approvals and permits issued.
    - Response: The project team has had many conversations with BWS and have discussed ways to address water usage on campus. An example of water conservation measures includes HFD's proposed reuse of water for their training purposes so that they are not using potable water every time. Civil design will incorporate best practices for recycling, reusing, and cleaning of water.
    - Representative Perruso followed up by stating that this comment was made in regard to the construction process. If BWS is talking about not allowing permits to be issued for construction over the course of the next few years because they have an obligation to meet the needs of existing water users first, what will happen to the project's process?
    - Response: As the Red Hill situation has just come up, the project team has not been able to discuss this issue with BWS yet.
- There are concerns about the chemicals that may be used in training. Can you discuss how this will be addressed?
    - Response: There are State and County rules and regulations to control chemicals being used on site. The users will have to treat HAZMAT before it enters the water and wastewater systems.

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