

After-Action Analysis Report: Queen Ka‘ahumanu Highway Widening, Phase 2

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Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
ADRR	Archaeological Data Recovery Report
AIS	Archaeological Inventory Survey
AMP	Archaeological Monitoring Plan
AMR	Archaeological Monitoring Report
APMP	Archaeological Preservation and Mitigation Plan
APE	Area of Potential Effects
BTP	Burial Treatment Plan
CSH	Cultural Surveys Hawaii
DRPP	Data Recovery and Preservation Plan
EA	Environmental Assessment
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
GBI	Goodfellow Bros, Inc.
HAR	Hawaii Administrative Rules
HDOT	Hawaii Department of Transportation
HHF	Historic Hawaii Foundation
HRS	Hawaii Revised Statutes
MOA	Memorandum of Agreement
National Register	National Register of Historic Places
NEPA	National Environmental Policy Act
NPS	National Park Service
NHLC	Native Hawaiian Legal Corporation
NHO	Native Hawaiian Organization
OHA	Office of Hawaiian Affairs
PODI	Project of Division Interest
ROD	Record of Decision
RFP	Request for Proposal
ROW	Right-of-Way
SHPD	State Historic Preservation Division
SIHP	State Inventory of Historic Properties
State DOT	State department of transportation
U.S.C.	United States Code
U.S. DOT	U.S. Department of Transportation
Volpe Center	U.S. DOT Volpe National Transportation Systems Center

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Executive Summary

In March 2020, the Federal Highway Administration (FHWA) Hawaii Division, Hawaii Department of Transportation (HDOT), and consulting parties under Section 106 of the National Historic Preservation Act of 1966 (“Section 106”) amended an Memorandum of Agreement (MOA) in connection with Phase 2 of the Queen Ka‘ahumanu Highway Widening. This Amendment One included Stipulation 26, which called for the development of an After-Action Analysis to document how the project failed to protect historic properties during its delivery and to propose recommendations for protecting historic properties when delivering future transportation projects. This document serves as this After-Action Analysis.

The Queen Ka‘ahumanu Highway Widening was planned in the late 1990s as a two-phase project on the western coast of Hawai‘i Island. The purpose of this project was to relieve existing congestion and accommodate future demand. Phase 2 covered the widening from Kealakehe Parkway to Keahole Airport Access Road. In delivering the project, the FHWA Hawaii Division and HDOT had statutory responsibilities to comply with Section 106. HDOT was also responsible for administering the review required by Chapter 6E of the Hawaii Revised Statutes (“Chapter 6E”), and the FHWA Hawaii Division was likewise responsible for meeting the requirements of Section 4(f) of the U.S. Department of Transportation (U.S. DOT) Act of 1966 (“Section 4(f)”).

At the request of HDOT and the FHWA Hawaii Division, the FHWA Office of Project Development and Environmental Review led the development of this After-Action Analysis, with support from the Advisory Council on Historic Preservation, FHWA Resource Center, the U.S. DOT Volpe National Transportation Systems Center, and the Office of Hawaiian Affairs (OHA). This After-Action Analysis team conducted data collection, document reviews, and interviews to:

1. Assess project-level compliance with Section 106, Chapter 6E, and Section 4(f) by identifying how the Queen Ka‘ahumanu Highway Widening, Phase 2, inadequately protected historic properties adjacent to this project; and
2. Make recommendations to ensure protection of historic properties during the construction of future projects by identifying specific steps, procedures, processes, and practices that should be improved upon or newly implemented.

The findings of this After-Action Analysis focused on the analysis of conditions that led to the additional adverse effects as well as breaches to buffers, compliance with the three relevant statutory authorities noted above, and analysis of project management practices, including communication and coordination with the Section 106 consulting parties. These findings were as follows:

FINDING #1: HDOT and the FHWA Hawaii Division appear to have ultimately met the requirements of Section 106 procedurally to date; however, reasonable and good faith efforts did not occur initially when identifying consulting parties, the Area of Potential Effects (APE), and historic properties.

FINDING #2: HDOT appears to have ultimately met the procedural requirements for Chapter 6E; however, reasonable and good faith efforts did not initially occur regarding identification of the project area, and identification, evaluation, and inventory of historic properties. Furthermore, although mitigation was developed and revised based on the redesign, key changes were not included in the final mitigation documents. Although there are similarities in the steps for Chapter 6E and Section 106, the combined processes aligned more with the 6E terminology, creating confusion and potentially impacting the project area designation.

FINDING #3: The FHWA Hawaii Division appears to have met the requirements of Section 4(f); however, as the Section 106 process is used as an input to the Section 4(f) process, initial problems associated with the Section 106 process hindered the Section 4(f) analysis. Also, problems with conveying Section 4(f) commitments into the design plans led directly to additional impacts to two historic properties that are also protected by Section 4(f).

FINDING #4: Lack of written protocols and procedures at HDOT led to confusion when implementing mitigation throughout the project-delivery process.

FINDING #5: Damage to the *mauka* (towards the mountain) portion of the Māmalahoa Trail occurred because it was not identified within the APE (Section 106) or project area (Chapter 6E) in the 2012 Archaeological Inventory Survey.

FINDING #6: Damage to the *makai* (towards the ocean) portion of the Māmalahoa Trail occurred because the Section 4(f) document and key information it contained were not shared with necessary parties.

FINDING #7: Damage to the Road to Sea Trail occurred because the Section 4(f) document and key information it contained were not shared with necessary parties.

FINDING #8: Buffer breaches for three State Inventory of Historic Properties (#19947, 28783, 28811) likely occurred because of inadequate separation between the start of the buffer and the edge of construction grading.

FINDING #9: Lack of checkpoints throughout the project-delivery process delayed discovery of additional adverse effects and led to failed compliance with notification procedures outlined in the 2015 MOA and damaged trust among project participants.

FINDING #10: Through the formal dispute process, FHWA has committed to the development of a Native Hawaiian Consultation Protocol Agreement. The FHWA has also committed to ongoing and future work to address mitigation and correct historical deficiencies at both the FHWA Hawaii Division and HDOT.

Based upon these findings, the following recommendations are provided for HDOT and the FHWA Hawaii Division, both jointly and individually:

Joint Recommendations for HDOT and the FHWA Hawaii Division

Recommendation
<p>Improving Coordination across Project Phases:</p> <ul style="list-style-type: none"> • Ensure the current project design always matches the current environmental analysis. • Establish a process for ensuring mitigation commitments are coordinated and reconciled during the environmental review phase, carried through subsequent phases of project delivery, and implemented. • Establish a process for tracking all decision points throughout project development and implementation.
<p>Strengthening Communications and Coordination</p> <ul style="list-style-type: none"> • Develop and implement communication protocols with consulting parties as part of the Section 106 process.
<p>Clarifying Procedures and Protocols</p> <ul style="list-style-type: none"> • Consolidate all mitigation commitments into one place within the environmental documentation. • Include all construction-related mitigation commitments in the construction contract. • Commit to a set of standards for the development and execution of MOAs. • Reassess the 72-hour window for notification of damages. • Better clarify how the requirements for Section 106 and Chapter 6E have been met.
<p>Strengthening Subject-Matter Expertise and Organizational Structures</p> <ul style="list-style-type: none"> • Ensure sufficient historic and cultural resource staff capacity to accommodate the demand for the HDOT transportation program. • Establish an ongoing training program on Section 106, Chapter 6E, and Section 4(f).

Specific Recommendations for HDOT

Recommendation
<p>Strengthening Communications and Coordination</p> <ul style="list-style-type: none"> • Ensure OHA and other appropriate consulting parties and/or Native Hawaiian Organizations are engaged at the appropriate point(s) during Section 106 and Chapter 6E processes. • Ensure prime contractors communicate mitigation commitments to sub-contractors. • Improve the engagement of archaeology and cultural monitors during construction.
<p>Clarifying Procedures and Protocols</p> <ul style="list-style-type: none"> • Establish procedures for construction-related communication.
<p>Reinforcing Actions during Construction</p> <ul style="list-style-type: none"> • Ensure buffer fencing is installed in the correct locations. • Expand buffer distances.
<p>Strengthening Subject-Matter Expertise and Organizational Structures</p> <ul style="list-style-type: none"> • Consider the cultural landscape and religious significance of historic properties when considering the effect from proposed projects on historic properties.

Specific Recommendations for the FHWA Hawaii Division

Recommendation
<p>Strengthening Subject-Matter Expertise and Organizational Structures</p> <ul style="list-style-type: none"> • Seek FHWA internal subject-matter expertise when questions arise. • Reassess the FHWA Hawaii Division's role in oversight of HDOT projects. • Reassess the FHWA Hawaii Division's role in oversight of Section 106 roles and responsibilities.

Section 1: Introduction

This After-Action Analysis investigates the activities and practices that led to additional adverse effects to historic properties during the construction of the Queen Ka‘ahumanu Highway Widening, Phase 2, Kealakehe Parkway to Keahole Airport Road (hereinafter referred to as the “Queen Ka‘ahumanu Highway Widening, Phase 2”). This report was prepared using information collected through document review and interviews with project participants.

In delivering the Queen Ka‘ahumanu Highway Widening, Phase 2, the Federal Highway Administration (FHWA) Hawaii Division and the Hawaii Department of Transportation (HDOT) had statutory responsibilities to comply with Section 106 of the National Historic Preservation Act of 1966 (“Section 106”), Chapter 6E of the Hawaii Revised Statutes (“Chapter 6E”), and Section 4(f) of the U.S. Department of Transportation (U.S. DOT) Act of 1966 (“Section 4(f)").

During project construction, there were additional adverse effects to historic properties beyond those initially addressed in the Section 106, Chapter 6E, and Section 4(f) compliance. These effects were not planned or mitigated for prior to construction or in the Section 106 Memorandum of Agreement (MOA) that was executed in 2015.

With the 2015 MOA scheduled to expire on March 17, 2020, the Section 106 consulting parties executed Amendment One on March 11, 2020, to extend the MOA in order to develop Amendment Two. Amendment One included Stipulation 26, which directed the development of “an ‘After-Action Analysis’ report on how the project failed to protect historic properties and proposed action items to address these issues.” On April 30, 2020, HDOT sent a formal “Request for Assistance on an After-Action Analysis, Queen Ka‘ahumanu Highway Widening, Phase 2” to the FHWA Hawaii Division, requesting that they lead and manage the After-Action Analysis. The FHWA Hawaii Division subsequently requested the support of the FHWA Office of Project Development and Environmental Review in preparing this report.

This After-Action Analysis fulfills Stipulation 26 of Amendment One, with a recognition of the limitations of conducting this analysis five years after the additional adverse effects to historic properties in delivering the Queen Ka‘ahumanu Highway Widening, Phase 2.¹

¹ The authors of this report made significant efforts to acquire all relevant documents and interview relevant participants, to the extent possible, in order to fulfill the purpose and objectives of this After-Action Analysis, within the bounds of certain limitations, including the time elapsed since the adverse effects and other mitigating factors. Due to the fact that 5 years have elapsed between the additional adverse effects in 2015, and over 10 years since the start of Phase 2, there are several limits to this After-Action Analysis, including, but not limited to, staffing turnover, documentation gaps due to staffing turnover, and reliance on older memories to fill in gaps.

Purpose

The purpose of this After-Action Analysis is two-fold:

1. Assess project-level compliance with Section 106, Chapter 6E, and Section 4(f) by identifying how the Queen Ka‘ahumanu Highway Widening, Phase 2, inadequately protected historic properties adjacent to this project; and
2. Make recommendations to ensure protection of historic properties during the construction of future projects by identifying specific steps, procedures, processes, and practices that should be improved upon or newly implemented.

Objectives

In fulfilling the purposes described above, this After-Action Analysis aims to provide recommendations for the FHWA Hawaii Division and HDOT that will help the agencies to:

- Improve processes and procedures for compliance with relevant Federal and State laws;
- Improve communication and sharing of information with project personnel to ensure historic and cultural properties are protected; and
- Improve communication and transparency with stakeholders, including Native Hawaiian Organizations (NHOs) and other Section 106 consulting parties, during the project-delivery process.

Report Organization

This report is organized into four subsequent sections:

- Section 2: Methodology
- Section 3: Timeline
- Section 4: Findings
- Section 5: Recommendations

Background

Project Background

The Queen Ka‘ahumanu Highway Widening was planned in the late 1990s as a two-phase project on the western coast of Hawai‘i Island. The purpose of this project was to relieve existing congestion and accommodate future demand.

HDOT was the project sponsor throughout the life of the Queen Ka‘ahumanu Highway Widening. The FHWA provided funding for the project and led oversight in accordance with the Federal-Aid Highway Program and as required by law. During construction, HDOT contracted with the R.M. Towill Corporation and Goodfellow Brothers, Inc. (GBI). Additional subcontractors played a role in the project, including Cultural Surveys Hawaii (CSH). Section 106 consulting parties included the Advisory Council on Historic Preservation (ACHP), the Hawaii State Historic Preservation Division (SHPD), the Historic Hawaii Foundation (HHF), Makani Hou o Kaloko-Honokōhau, the National Park Service (NPS), the Native Hawaiian Legal Corporation (NHLC), and the Office of Hawaiian Affairs (OHA). For additional information on the project participants, see Appendix C: Project Participants.

Initially, environmental compliance for both phases of the project was completed in May 1996 as an Environmental Assessment (EA), resulting in a Finding of No Significant Impact (FONSI). In 2009, HDOT completed construction on Phase 1, which covered widening and improvements between Palani Road and Kealakehe Parkway. In July 2009, HDOT and the FHWA Hawaii Division initiated Phase 2 by releasing the Design-Build Request for Proposals (RFP). HDOT awarded the Queen Ka‘ahumanu Highway Widening, Phase 2, to GBI in April 2010. In November 2010, HDOT released a draft Archaeological Inventory Survey (AIS) and initiated the consultation process to amend an existing Section 106 MOA, originally executed in 1999. As a result of concerns raised in consultation, HDOT and the FHWA Hawaii Division commissioned a revised AIS in 2012, began a redesign of the project, started renegotiating the Section 106 MOA, and initiated an individual Section 4(f) evaluation. In 2015, several key actions were completed, including an update to the 1999 Section 106 MOA (March), a re-evaluation of the EA (May), and the final Section 4(f) evaluation (May). In the fall of 2015, Phase 2 construction activity resulted in additional adverse effects to historic properties. The process of resolving these adverse effects led to this After-Action Analysis and continues today. For additional information on the project timeline, see Section 3: Timeline and Appendix A: Timeline of Events.

Project Location

This report focuses on the Phase 2 of the Queen Ka‘ahumanu Highway Widening. Phase 2 covered the widening from Kealakehe Parkway to Keahole Airport Access Road (see Figure 1 for project map). For the purposes of this report, the southern section describes the portion of the project from Kealakehe Parkway to Hina Lani Street, and the northern section describes the portion of the project from Hina Lani Street to Keahole Airport Access Road. The Kaloko-Honokōhau National Historical Park is located *makai (towards the ocean)* of the Queen Ka‘ahumanu Highway and is entirely included in the Area of Potential Effects (APE). Further north, the Kona International Airport is also located *makai (towards the ocean)* of the Queen Ka‘ahumanu Highway.



Figure 1: Map of the overall project area.

Impacted Properties

Through the Phase 2 construction activity, additional adverse effects occurred to the following properties:

- Māmalahoa Trail (State Inventory of Historic Properties [SIHP] #00002) is a historic cross-*ahupua'a* (section of land from the mountains to the ocean) road that lies on both sides (*mauka* [towards the mountain] and *makai* [towards the ocean]) of the Queen Ka'ahumanu Highway. The Māmalahoa Trail was damaged in two places, on the *mauka* (towards the mountain, which, in the case of this project, is east) side of the Queen Ka'ahumanu Highway at its intersection with the Kealahou Parkway and on the *makai* (towards the ocean, which, in the case of this project, is west) side of the Queen Ka'ahumanu Highway near the entrance to the Kaloko-Honokōhau National Historical Park.
- Road to Sea Trail (SIHP #10714) is a trail located northwest of the intersection of Hina Lani Street and the Queen Ka'ahumanu Highway, adjacent to the Kaloko-Honokōhau

National Historical Park. The trail is identified in project documents in three pieces: Features A, B, and C. The Road to Sea Trail was damaged at Features A and C, both of which are located northwest of the intersection of Hina Lani Street and the Queen Ka‘ahumanu Highway.

Additionally, although not considered adverse effects, construction activity breached buffers around the following properties:

- SIHP #19947 consists of three small cairns (Features A, B, and C) on *pahoehoe* (lava flow with a smooth to ropy surface) outcrops. They are located at the approximate *ahupua‘a* (section of land from the mountains to the ocean) boundary between Kohanaiki and Kaloko and are considered to be *ahupua‘a* boundary markers.
- SIHP #28783 is an excavated *a‘a* (lava flow that consists of piles of more angular pieces of lava) complex consisting of six features (Features A-F), interpreted as an agricultural complex likely dating from pre-contact times. The features are located south of Huehue Road adjacent to the Kaloko-Honokōhau National Historical Park.
- SIHP #28811 is a *pahoehoe* excavation located south of the intersection of OTEC Road and the Queen Ka‘ahumanu Highway.

Relevant Statutory Authorities

In assessing project-level compliance by the FHWA Hawaii Division and HDOT, this After-Action Analysis references the following three statutory authorities in identifying how the Queen Ka‘ahumanu Highway Widening, Phase 2, inadequately protected historic properties adjacent to this project:

Section 106 of the National Historic Preservation Act of 1966 (16 United States Code [U.S.C.] §470f)

Section 106 states that agencies that use Federal funds must take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places (“National Register”). Under Section 106, the agency, through consultation, applies criteria of adverse effects to historic properties within the APE. Within this regulation, the agency evaluates historic properties to see if there will be an adverse effect or a finding of no adverse effect. The FHWA Hawaii Division and HDOT jointly administered the process that Section 106 mandates.

Application of the Section 106 process typically follows four stages:

- 1) Initiate the process, including identifying consulting parties;
- 2) Identify historic properties, including determining the APE;
- 3) Assess adverse effects, including applying criteria of adverse effects; and
- 4) Resolve adverse effects, including exploring measures to avoid, minimize, or mitigate adverse effects and achieving resolution.²

² The ACHP website provides additional information about the Section 106 four-step process at: <https://www.achp.gov/protecting-historic-properties/section-106-process/introduction-section-106>.

Hawaii Revised Statutes Chapter 6E (HRS 6E)

Chapter 6E-8 requires that SHPD review proposed State projects for their effects on historic properties, aviation artifacts, and burial sites. Under Chapter 6E, SHPD determines the effects of a project on significant historic properties within the project area to determine if there are “no historic properties affected” or that there is an “effect, with proposed/agreed upon mitigation commitments.”³ As the State agency, HDOT administered the review that Chapter 6E mandates.

Section 4(f) of the U.S. DOT Act of 1966 (49 U.S.C. §303 and 23 U.S.C. §138)

Section 4(f) requires that “special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.” Section 4(f) properties include significant publicly owned public parks, recreation areas, and wildlife or waterfowl refuges, or any publicly or privately owned historic site listed or eligible for listing on the National Register.⁴ As an operating administration of the U.S. DOT, the FHWA Hawaii Division administered the review that Section 4(f) mandates.

³ Note that Section 106 uses the term, “APE,” while Chapter 6E uses “project area.” Under Hawaii Administrative Rules §13-275-2, “‘project area’ means the area the proposed project may potentially affect, either directly or indirectly. It includes not only the area where the project will take place, but also the proposed project’s area of potential effect.”

⁴ When historic properties are present, Section 4(f) and Section 106 may be triggered; however, these are separate laws that have different requirements. The FHWA Office of Project Development and Environmental Review’s Environmental Review Toolkit website provides information on the differences between Section 106 and Section 4(f). These include a difference in terminology. Section 106 uses the term, “project effects,” while Section 4(f) considers if there is “use” of historic properties. Additional information on the overlap of and differences between these two laws is available at: https://www.environment.fhwa.dot.gov/env_topics/4f_tutorial/overview.aspx?f=e#f.

Section 2: Methodology

In preparing this report, the After-Action Analysis team relied on data collection and document review, as well as interviews with project participants, to compile the findings and recommendations. This section provides more information on the composition of the After-Action Analysis team, as well as the specific process used to compile this report.

Team Composition

The FHWA Office of Project Development and Environmental Review received the initial request from the FHWA Hawaii Division, on behalf of HDOT, to conduct the After-Action Analysis and subsequently organized a team to support its development. This After-Action Analysis team consisted of representatives from the following agencies:

- **FHWA Office of Project Development and Environmental Review**

The FHWA Office of Project Development and Environmental Review oversaw the development of the After-Action Analysis and provided final authority on its preparation and release.⁵

- **FHWA Resource Center**

The FHWA Resource Center, specifically through its Environment, Air Quality, and Realty team, led the day-to-day project management of the After-Action Analysis.⁶

- **Advisory Council on Historic Preservation**

The ACHP provided guidance to the After-Action Analysis in two capacities:

- The FHWA National Liaison to the ACHP was directly involved in the entire process, providing guidance and support on the data collection, interviews, methods of analysis, and report production.
- The ACHP Office of Native American Affairs observed during the development of the After-Action Analysis, listening to interviews and reviewing draft documents.⁷

⁵ The mission of the FHWA Office of Project Development and Environmental Review is to advance environmental stewardship and streamlining for FHWA-funded projects through application of National Environmental Policy Act (NEPA) principles and the NEPA process at the project level. For additional information, please visit: https://www.environment.fhwa.dot.gov/about/contacts_hepe.aspx.

⁶ The FHWA Resource Center provides expert training and technical assistance to FHWA Divisions and their transportation partners, in addition to offering other services. For additional information, please visit: <https://www.fhwa.dot.gov/resourcecenter/about-us.cfm>.

⁷ The mission of the ACHP is to promote the preservation and enhancement of the Nation's diverse historic resources. For additional information, please visit: <https://www.achp.gov/about>.

- **Office of Hawaiian Affairs**

The State of Hawaii’s OHA served as a Cultural Liaison for the After-Action Analysis by providing an understanding of the cultural and historical context of Hawaii, and assisted the analysis by reviewing interview questions, listening to interviews, and reviewing the draft After-Action Analysis.⁸

- **U.S. DOT Volpe National Transportation Systems Center**

The U.S. DOT Volpe National Transportation Systems Center (Volpe Center) provided day-to-day support for all stages of the After-Action Analysis development, including data collection and document review, coordination of the interview process, and preparation of the After-Action Analysis.⁹

Data Collection and Document Review

The FHWA Hawaii Division provided the After-Action Analysis team with the initial project documentation list in the “Request for Assistance on After-Action Analysis.” The team reviewed the initial document list and requested documents from the FHWA Hawaii Division and HDOT, including individual documents that fit into each of the general categories of documents in the Request for Assistance and additional documents not included in the list. Upon receipt of the documents, the team catalogued and reviewed all of the documents. The team further requested additional documents throughout the review process, as necessary. For the full list of documents, see Appendix B: Documents Reviewed. The team also conducted additional data collection through follow-up outreach to agencies and organizations, as necessary, to fill in remaining knowledge gaps or confirm information.

Interviews

The After-Action Analysis team developed a list of potential interviewees from agencies, Section 106 consulting parties, and individuals identified through the document review process. At the request of the Section 106 consulting parties, the team further identified a list of representatives to include on each interview in a listening capacity; these representatives comprised the “Interview Team” for an interview. The After-Action Analysis team refined the list of interviewees and Interview Teams over time with suggestions from the FHWA Hawaii Division, HDOT, and the consulting parties.

For each interview, the After-Action Analysis team coordinated scheduling with the interviewee(s) and the Interview Team. Once an interview was scheduled, the After-Action Analysis team distributed draft interview questions to the Interview Team to provide an

⁸ The OHA provides advocacy to improve the conditions of Native Hawaiians, including efforts to ensure compliance with laws at the local, State, and Federal levels. The OHA also provides resources and facilitates collaboration across various agencies and organizations to support the Hawaiian community. For additional information, please visit: <https://www.oha.org/>.

⁹ The Volpe Center is a Federal research organization, under the U.S. DOT Office of the Secretary of Transportation, which provides services at cost and strives to advance transportation innovation for the public good. For additional information, please visit: <https://www.volpe.dot.gov/>.

opportunity for review and request feedback.¹⁰ The After-Action Analysis team would then finalize the interview questions and circulate the proposed questions to the interviewee(s) and Interview Team. The FHWA Resource Center facilitated the interviews and asked all questions of the interviewee(s), with the Interview Team listening in to the entire interview.¹¹ Following each interview, the After-Action Analysis team prepared meeting minutes that were reviewed internally and not distributed beyond the After-Action Analysis team; the team used these minutes to update the data collection findings and compile a list of recommendations. The After-Action Analysis team initiated 15 interview requests, of which 12 were held via teleconference, 2 elected to submit written feedback in lieu of a teleconference interview, and 1 declined to participate. For additional information about the interview process, including the list of interviewees, their Interview Teams, and the respective interview questions, see Appendix D: Interviews and Appendix E: Interview Questions.

Feedback to After-Action Analysis Report

The After-Action Analysis team held a meeting in January 2021 to present the findings and recommendations of the After-Action Analysis to the FHWA Hawaii Division, HDOT, and the Section 106 consulting parties. This meeting was held on January 29, 2021. Following this meeting, the FHWA Hawaii Division, HDOT, and consulting parties were asked to provide any feedback they wished to share on the After-Action Analysis report within 30 days. Feedback was requested by March 1, 2021. Appendix F: Feedback Provided on After-Action Analysis provides the feedback received

¹⁰ The FHWA Resource Center had discretion in adding additional questions proposed by Interview Team members. In a few instances, the FHWA Resource Center slightly modified the wording of a proposed question or determined not to include a question. In all instances, the FHWA Resource Center notified the Interview Team to confirm the addition of questions or identify if particular additional suggested questions would not be included.

¹¹ For three interviews, due to scheduling conflicts, the FHWA Office of Project Development and Environmental Review facilitated instead of the FHWA Resource Center. All interviews were conducted by teleconference. The After-Action Analysis team worked to ensure that all Interview Team members interested in participating in a particular interview were on the line before an interview began.

Section 3: Timeline

This timeline provides an overview of the Queen Ka‘ahumanu Highway Widening, Phase 2, including references to each of the regulatory processes (Section 106, Chapter 6E, and Section 4(f)). For a full timeline of events, see Appendix A: Timeline of Events.

	Month/ Date	Project Milestone	Section 106	Chapter 6E	Section 4(f)
Phase 2: Project Development	1996	EA and FONSI			Programmatic Section 4(f) approval
	1999		Section 106 MOA		
	2009	Design-Build RFP released for Phase 2			
	March 2012	Compiled Final Plan Set			
	July 2012		Final AIS	Final AIS	
	August 2012		AIS acceptance letter from SHPD – combined for Section 106 and 6E (concurrence with project area, identification of historic properties, and effects determination)	AIS acceptance letter from SHPD – combined for Section 106 and 6E (concurrence with project area, identification of historic properties, and effects determination)	
	October 2012		Archaeological Monitoring Plan (AMP) and acceptance letter – combined for Section 106 and 6E Data Recovery and Preservation Plan (DRPP) and acceptance letter	AMP and acceptance letter – combined for Section 106 and 6E DRPP and acceptance letter Burial Treatment Plan (BTP) and acceptance letter	
	June 2013				Draft Individual Section 4(f) Evaluation
	August 2013	Contract Change Order for Redesign			
	April 2014		Archaeological Preservation and Mitigation Plan (APMP) and SHPD acceptance letter	APMP and SHPD acceptance letter	
March 2015		New Section 106 MOA			

	Month/ Date	Project Milestone	Section 106	Chapter 6E	Section 4(f)
Pre- Construction	May 2015	EA and FONSI re-evaluation complete	Cultural Monitors start work Data Recovery and Fencing Installed on Site	Cultural Monitors start work Data Recovery and Fencing Installed on Site	Final Section 4(f) Evaluation
	June 2015		End of fieldwork Letter for data recovery and preservation	End of fieldwork Letter for data recovery and preservation	
	July 2015		SHPD acceptance of end of fieldwork	SHPD acceptance of end of fieldwork	
Construction	September 2015	Construction Starts			
	Fall 2015	Additional Adverse Effects			
	January 2016	100pct Redesign Plans			
Post-Damage	August 2016	HDOT/FHWA Hawaii Division determine damage to historic properties			
	September 2016	Redesign Resubmittal Plans	HDOT notified consulting parties of damage to historic properties via email		
	December 2016		Expand APE Request		
	November 2016		Final Action Plan for archaeological monitoring	Final Action Plan for archaeological monitoring	Final Action Plan for archaeological monitoring
	January 2017		SHPD concurs with expanded APE		
	March 2017		Supplemental AIS following APE expansion and SHPD acceptance	Supplemental AIS following APE expansion and SHPD acceptance	
	August 2017		FHWA Hawaii Division notifies ACHP of Adverse Effects		
	October 2017		Archaeological Data Recovery Report	Archaeological Data Recovery Report	Archaeological Data Recovery Report
	January 2019			BTP addendum and acceptance by SHPD	
Post- Construction	June 2019	As-built Plans for Design-Build complete			
	February 2020		Archaeological Monitoring Report	Archaeological Monitoring Report	Archaeological Monitoring Report

Section 4: Findings

Managing a transportation project can be challenging and requires State departments of transportation (State DOTs) and FHWA Divisions to be prepared and nimble. A project can (and often does) change over time, in the following ways:

- The project is described during the environmental review process;
- Aspects of the project can change as more design occurs;
- Right-of-way (ROW) negotiations can result in more or less property rights being acquired than what was identified during the environmental review process;
- Changes to the project can occur during construction; and
- Project personnel can change.

Likewise, the environment can change during the development of a project, such as the identification of new historic properties later on. Clear, reliable, and timely communication between project managers, subject-matter experts, regulatory agencies, and interested stakeholders is essential. Additionally, if staffing changes do occur, clear procedures and well-organized project files facilitate succession planning needed to bring new staff up to speed.

As a project changes and the environment changes, it is the responsibility of the project management team to:

- Be aware of such changes;
- Recognize the implication of such changes to the project and to various historic and cultural properties as well as environmental resources;
- Update the project and the environmental analysis to account for such changes; and
- Ensure the project and all analysis documents are current and consistent with each other.

In keeping with the purpose of this After-Action Analysis, this section provides findings related to compliance with the relevant statutory authorities—Section 106, Chapter 6E, and Section 4(f)—as well as those more broadly tied to the project-delivery process of the Queen Ka‘ahumanu Highway Widening, Phase 2. This section also addresses the actions of HDOT and the FHWA Hawaii Division when changes in the project and environment occurred. The findings presented in this section were identified through the course of the After-Action Analysis team’s document review and interviews.

PART ONE: COMPLIANCE WITH STATUTORY AUTHORITIES

HDOT and the FHWA Hawaii Division appear to have met the requirements of Section 106, Chapter 6E, and Section 4(f); however, there are multiple points at which the two agencies could have improved the compliance and outcomes. The following findings (#1 – #3) provide step-by-step analyses of Section 106, Chapter 6E, and Section 4(f) compliance for the Queen Ka‘ahumanu Highway Widening, Phase 2.

FINDING #1: HDOT and the FHWA Hawaii Division appear to have ultimately met the requirements of Section 106 procedurally to date; however, reasonable and good faith efforts did not occur initially when identifying consulting parties, the Area of Potential Effects, and historic properties.

Both the FHWA Hawaii Division and HDOT had responsibilities to administer Section 106 in accordance with the four-step process. While the agencies followed these steps procedurally, there were elements that would have benefited from additional attention and coordination. Earlier coordination and consultation relative to the project development schedule could have bolstered the consultation process and improved the timing of the project development process.

Step 1: Initiating Section 106

Did the FHWA Hawaii Division and HDOT identify consulting parties for Phase 2?

Yes, eventually. During the initial phase of project planning, the FHWA Hawaii Division and HDOT consulted with SHPD, OHA, HHF, and the ACHP. These parties entered into an MOA in 1999 to address effects to historic properties from both phases of the widening project.

During the re-evaluation stage of Phase 2, the FHWA Hawaii Division consulted with the following parties: Department of Land and Natural Resources, SHPD, HHF, OHA, Hui Malama I Na Kupuna O Hawaii Nei, Edith Kanakaole Foundation, Kona Hawaiian Civic Club, the Hawai'i Island Burial Council, the Royal Order of Kamehameha, Villages of Laiopua Master Association, Nakoa Foundation, and the Kaloko-Honokōhau National Historical Park.

However, despite consulting with specific parties in Phase 1 and Phase 2, HDOT and the FHWA Hawaii Division did not appear to have procedures or protocols in place for identifying consulting parties or carrying out the consultation process. In Hawaii, it is not uncommon for consulting parties to self-identify. In the After-Action Analysis interviews with consulting parties, several stated that they felt the FHWA Hawaii Division and HDOT should have put more effort into identifying NHOs with cultural ties to the project area. Interviewees expressed that the consultation process is complicated by having individuals spread out across several islands, as is the case for personnel from the FHWA Hawaii Division and HDOT, as well as many consulting parties (e.g., SHPD, OHA, and HHF).

Given the gap between the initial Section 106 MOA in 1999 and start of the advertisement for Phase 2 in 2007, the Phase 2 environmental documents would need to be re-evaluated. In 2007, OHA contacted HDOT, the FHWA Hawaii Division, and SHPD regarding what they felt was an inadequate cultural inventory assessment and requested that changes be made to the 1999 MOA. This letter correspondence from OHA appears to have occurred outside of a formal re-evaluation process for Phase 2. The design-build contract was awarded in April 2010, and HDOT officially initiated Phase 2 in July 2010, by selecting the contractor and giving them Notice to Proceed.

The project file identifies consultation on a revised Section 106 MOA starting in 2010 and an initial consultation meeting in Kona during October 2011. Following this meeting, the NHOs conducted their own site survey. Throughout the re-evaluation process, it appeared as if consultation was being driven by the consulting parties as opposed to the FHWA Hawaii

Division or HDOT, and consultation ramped up following a request by Makani Hou o Kaloko-Honokōhau and the NPS to re-evaluate the original AIS from 1995 and conduct a new survey of properties within the APE. In 2011, following the AIS, HDOT sent letters to consulting parties to review and provide comments on the AIS. This is the first record that the After-Action Analysis team found of HDOT initiating communication with the consulting parties. Based on the information provided in several interviews, it appears that the original design and engineering for Phase 2 were potentially completed, or far along, before consultation started. Several interviewees noted that earlier consultation would have been beneficial for such a complex project.

During interviews, consulting parties noted that they felt the Section 106 consultation process had been rushed and that events in the environmental review, Section 106, and project delivery process occurred out of order. These statements appear consistent with conversations between the FHWA Hawaii Division and Makani Hou o Kaloko-Honokōhau regarding the timing of the redesign and the signing of the MOA at the December 2012 consultation meeting, as documented in the meeting minutes. Furthermore, consulting parties felt that the pace of the project and requests for comment were not consistent with the length of time it took HDOT and the FHWA Hawaii Division to respond and provide comments to their inquiries.

However, in general, as HDOT and the FHWA Hawaii Division received feedback from the consulting parties, they took actions to address these requests. For example, the AIS was updated at the request of Makani Hou o Kaloko-Honokōhau and the NPS. Additionally, at the December 2012 consultation meeting, the FHWA Hawaii Division noted that the Phase 2 redesign was based on comments received by the NHLC on behalf of Makani Hou o Kaloko-Honokōhau.

Step 2: Identifying Historic Properties

Did the Section 106 process identify the Area of Potential Effects?

Yes, eventually. The original APE included the 300-foot ROW for the highway and a portion of the Kaloko-Honokōhau National Historical Park from the highway to the ocean. In 2016, the APE was redefined to reflect the grading work that was done on the side roads; this grading occurred outside the original APE. The APE expansion also incorporated the contractor baseyard in the southern portion of the project.

However, additional steps could have likely been taken to improve the identification of the APE. Given the fact that the project was a design-build project, it can be expected that the APE might change over the course of project delivery. However, the APE did not include the following proposed intersection improvements: 1) 600-foot segment of highway at the transition area with Phase 1; and 2) 1,800-foot segment at the transition of current improvements with the existing roadway. The APE was later expanded by approximately 23 acres to include all grading, staging, and utility work (as documented in a November 4, 2016 email from HDOT to SHPD).

As early as 2012, the NPS raised questions about how the APE was defined in the 2012 AIS before construction started (as documented in a 2012 NPS letter). In this letter, the NPS also asked about the location of the staging areas. The drawings of the Māmalahoa Trail in the AIS and the letter from the NPS should have raised some flags that the boundaries of the APE might

need to be confirmed or redrawn. The original APE did not include any graded areas on side streets outside of the Queen Ka‘ahumanu Highway ROW. The archaeological monitoring report (AMR) (2020) notes that this error went undetected until 2016 when the APE was expanded to include the staging areas, as well as the graded areas on the side streets.

By not updating the APE to reflect changes to the project design in a more timely manner, later steps (identifying historic properties and assessing effects) were hindered.

Additionally, another point of concern is that, throughout the project, the terms “project area” and APE were used interchangeably, likely because “project area” is used under Chapter 6E.

Did the Section 106 process identify historic properties?

Yes, eventually. The original AIS, conducted in 1995 before the initiation of Phase 2, identified 17 historic properties. During this original survey, there does not appear to have been a reasonable and good faith effort to consult with interested NHOs or identify properties with religious and cultural significance to the NHOs and other consulting parties.

Because of this initial deficiency, an additional survey was requested by consulting parties (NPS and Makani Hou o Kaloko-Honokōhau) in 2010 and contracted to CSH. This request came after HDOT and FHWA released a re-affirmation of the 1996 EA and FONSI in 2006-2007. This survey, was conducted to satisfy both Federal law (Section 106) and Hawaiian State Law (6E). It follows the procedures for conducting an AIS under Hawaiian law and does not limit the survey to archaeological sites alone; it also includes a survey of above ground features, including those with religious and cultural significance to NHOs and other consulting parties. The AIS found 76 properties¹² and was conducted with the assistance of Makani Hou o Kaloko-Honokōhau and the NPS in the field. Although the NHOs were not consulted during the first AIS in 1995, they were involved—primarily due to their own perseverance—in the identification of archaeological resources as well as properties with religious and cultural significance during the surveys conducted for the 2012 AIS. SHPD concurred on the draft AIS on July 9, 2012 under the condition that the consulting parties were also satisfied with this document. To finalize the AIS, two additional surveys were conducted in response to consulting parties’ concerns and included consulting parties in the field to help facilitate identification. In a letter in 2012, Makani Hou o Kaloko-Honokōhau still felt as though the properties identified within the project area were not exhaustive. Ultimately, the AIS was finalized in 2012, and the identification of historic properties within the project area was deemed complete.

¹² The final Section 4(f) document includes the following note about the number of identified resources; “The July 2012 Archaeological Inventory Survey (AIS) individually identified and listed seventy-six (76) sites, however, erroneously indicated seventy-five (75) sites in its summation. This mathematical error was repeated in SHPD’s 2012 acceptance letter. The 2015 Section 106 MOA provides a listing of the same sites listed in the 2012 AIS with the correct summation, which is seventy-six (76).”

Step 3: Assessing Effects on Historic Properties

Did the Section 106 process assess effects?

Yes. The 2012 AIS provided an effects assessment for the entire project and each of the identified properties.

Although the Section 106 process assessed effects, there are additional steps that could have been taken to improve this assessment. The Section 106 and Chapter 6E processes were combined throughout this project, which complicated the assessment process under Section 106. Language used to satisfy the Section 106 requirements often used terminology for Chapter 6E. In the AIS, while the overall effects language uses the Federal designation, the effects language for each property only uses the State-level effects descriptions, not Federal descriptions of effects.

The *mauka* (*towards the mountain*) portion of the Māmalahoa Trail was identified in the AIS but was not included in the effects determination for the trail under Section 106 because that portion of the trail was determined to fall outside of the APE, as identified in a 2017 letter from HDOT to the FHWA Hawaii Division. Given the number of parties that reviewed this document and the number of iterations that it went through, it is unclear why the grading on the side roads were not included in the APE at this time. Although the 2012 AIS clearly depicts a portion of the Māmalahoa Trail within the grading limits, it is not inside the “project area” and not part of the defined APE. The AIS states that this portion of the trail is no longer within the “project area” on the *mauka* side. Unless there was a scope change at the time, it is not clear why the graded portion of the Kealaheke Parkway would not have been included in the APE.

Step 4: Resolving Adverse Effects

Did the Section 106 process establish mitigation measures to resolve adverse effects?

Yes; however, during the development of the 2015 MOA, consulting parties raised concerns that the process was being rushed and that comment periods were too short, as indicated from the meeting minutes from the December 2012 consultation meeting. This was reiterated during several interviews. Interviewees also raised concerns that MOA language about mitigation and preservation measures was not specific enough. The MOA references the Archaeological Preservation and Monitoring Plan (APMP), Data Recovery and Preservation Plan (DRPP), and Burial Treatment Plans (BTPs) to describe the mitigation measures for the project. The Section 106 MOA was finalized in February 2015, but the Section 4(f) document (see findings below) was not finalized until September 2015. As a result, the table describing the project-level effect determinations in the MOA (titled *Sites, Effect and Recommended Mitigation* and found in the MOA appendix) lists an outdated project effect for the Road to Sea Trail. Following the completion of the Section 4(f) document, which specified that there would be no use of the Road to Sea Trail, the Section 106 effect should have been updated.

FINDING #2: HDOT appears to have ultimately met the procedural requirements for Chapter 6E; however, reasonable and good faith efforts did not initially occur regarding identification of the project area, and identification, evaluation, and inventory of historic properties. Furthermore, although mitigation was developed and revised based on the redesign, key changes were not included in the final mitigation documents. Although there are similarities in the steps for Chapter 6E and Section 106, the combined processes aligned more with the 6E terminology, creating confusion and potentially impacting the project area designation.

As the State agency, HDOT was responsible for administering Chapter 6E. While HDOT appears to have met the procedural requirements of Chapter 6E, the process was heavily interwoven with Section 106. While Chapter 6E and Section 106 have similar elements, they are distinct processes, which ultimately led to confusion as the project moved forward.

Identification and Inventory

Did HDOT consult with SHPD regarding the identification and inventory of historic properties in the project area?

Yes. Although the revised AIS was conducted at the request of NPS and Makani Hou o Kaloko-Honokōhau, the draft AIS was submitted to SHPD for comment, and the final AIS was submitted for SHPD concurrence in 2012.

Evaluation of Significance

Were each of the identified significant historic properties assessed for significance and submitted to SHPD in writing?

Yes. A draft of the AIS was submitted to SHPD for review under Chapter 6E. Significance was assessed under all the categories according to HRS Chapter 6E Hawaii Administrative Rules (HAR) 13-275-6.

Given that there were so many properties with significance under criterion E and the project area was known to have ongoing and historic use, an ethnographic survey could have been conducted in addition to the archaeological survey per the regulations outlined in HAR 13-275-5.

Determining Effects to Significant Historic Properties

Did HDOT determine the effects of the project on significant historic properties and provide a determination of either “No Historic Properties Affected” or “Effect, with proposed/agreed upon mitigation commitments”?

Yes. The 2012 AIS provides a table with each of the historic properties listed along with the effect and recommended mitigation. Although the project area was defined in the 2012 AIS, grading on the side roads and the contractor baseyards were not included in the defined project area at this time. Similar to the issue described above, the *mauka* (towards the mountains) portion of the Māmalahoa Trail was not included in the effects determination for this property under Chapter 6E.

Although the 2012 AIS clearly depicts a portion of the Māmalahoa Trail within the grading limits, this section was not considered because it was outside of the “project area.”¹³ Although construction-related staging areas and baseyards are often decided upon later in the project-development process, it is unclear why this graded area—and subsequently, this portion of the Māmalahoa Trail—was not considered in the project area. The 2012 AIS makes the following statement: “the site was revisited during the current archaeological inventory survey and found to be in the same general physical condition (Figure 81 to Figure 85); however, in its current configuration, the Māmalahoa Trail is no longer within the project area on the east, or *mauka*, side.” However, given the drawings in the AIS, it seems clear that the side-road grading should have been included in the project area.

Mitigation Commitments

Were mitigation commitments proposed and agreed to?

Yes. Initial mitigation commitments were put forth in the AIS, and SHPD provided concurrence. These were formalized in the DRPP in 2012. After the DRPP was developed, the project underwent a redesign to reduce adverse effects to several properties. As a result, the effect and proposed mitigation changed for 21 properties, which were submitted to SHPD as part of the APMP in 2014.

Development of Mitigation Plans

Did HDOT develop detailed mitigation plans and provide them to the SHPD?

Yes, but the mitigation plans were based on outdated information. To comply with the requirements under HAR 13-275, CSH produced the DRPP and BTP in 2012 and the APMP in 2014. SHPD sent letters of concurrence to HDOT for all three documents (for specific dates, see Section 3: Timeline and Appendix A: Timeline of Events). When the Section 4(f) approval occurred in 2015, either the DRPP or APMP should have been updated to reflect the updated mitigation commitments.

FINDING #3: The FHWA Hawaii Division appears to have met the requirements of Section 4(f); however, as the Section 106 process is used as an input to the Section 4(f) process, initial problems associated with the Section 106 process hindered the Section 4(f) analysis. Also, problems with conveying Section 4(f) commitments into the design plans led directly to additional impacts to two historic properties that are also protected by Section 4(f).

The FHWA Hawaii Division was responsible for meeting the requirements of Section 4(f). While the substantive requirements of Section 4(f) appear to have been met:

- 4(f) compliance relies on the Section 106 process for inputs on historic properties. As identified elsewhere in this report, the APE was not updated in a timely manner, leading to additional effects to historic properties that were not adequately considered until after the project was constructed; and

¹³ “Project area” is defined under HAR 13-275-2 as “the area the proposed project may potentially affect, either directly or indirectly. It includes not only the area where the project will take place, but also the proposed project's area of potential effect.”

- The Section 4(f) process established project commitments that were not adequately implemented later during design and construction (as identified in Findings #6 and #7).

Section 4(f) Document

Was the appropriate Section 4(f) approval prepared?

Yes. During the original environmental review for the project in 1996, a programmatic Section 4(f) document was appropriately prepared under the Programmatic Section 4(f) Evaluation for Minor Involvements with Historic Sites.

After the AIS was updated during Phase 2, additional “use” of Section 4(f) properties was anticipated. As neither a “de minimis” finding nor a programmatic approval was considered appropriate, the FHWA Hawaii Division determined an Individual Section 4(f) approval was needed.

Section 4(f) Property Identification

Were Section 4(f) properties properly identified?

Yes. The 2015 Final Section 4(f) Evaluation properly identified public parks (one), public recreation areas (none), and public wildlife and waterfowl refuges (none). The Section 106 process was used to identify historic sites either listed on, or eligible for listing on, the National Register. The Section 4(f) documentation does not indicate any historic sites of local significance (not on or eligible for listing on the National Register) were suggested to the FHWA Hawaii Division for consideration of protection under Section 4(f).

Section 4(f) Consultation

Were the appropriate “officials with jurisdiction” consulted?

Yes. SHPD was the official with jurisdiction for historic sites. In February 2013, the FHWA Hawaii Division consulted with SHPD about the historic sites that were considered Section 4(f) properties. In March 2013, SHPD provided a response. The FHWA Hawaii Division, which has final determination of the Section 4(f) properties, provided clarification at SHPD’s request and included a few additional properties in the individual Section 4(f) review.

The NPS was the official with jurisdiction for the Kaloko-Honokōhau National Historical Park. Correspondence between the FHWA Hawaii Division and the NPS occurred in 2013.

Section 4(f) Use Assessment

Was the use of Section 4(f) property assessed properly?

Yes. As a result of the redesign, the project anticipated “use” of one property (Māmalahoa Trail).

Through correspondence and in their formal objection letter to the ACHP, Makani Hou o Kaloko-Honokōhau felt that a specific property, SIHP #06542, an *ahupua’a* wall between the *ahupua’a* of Kalaoa and O’oma, was exempt from Section 4(f) consideration when it should not have been and that they should have been involved in consultation for that determination. The FHWA exempted this property because it was eligible for listing on the National Register solely under criterion D. Based on FHWA guidance, properties that are considered under criterion D

alone are eligible for exemption because the site is chiefly important as a result of what can be learned by data recovery. During initial correspondence with SHPD, the “official with jurisdiction”, SHPD was concerned about the data-recovery exemption for this property because of its location and cultural significance. SHPD thought that because the AIS did not specify data recovery for SIHP #06542, it might be eligible for a different exemption under Section 4(f). In a response letter on May 15, 2013, the FHWA Hawaii Division clarified their reasoning for Section 4(f) through conversations with SHPD and came to a resolution about excluding this property from Section 4(f) consideration. NHOs and other Section 106 consulting parties are not considered “officials with jurisdiction” and are considered members of the public for purposes of commenting on Section 4(f) documents. Therefore, while the consulting parties provided input, FHWA retains discretion for determining which properties to include under Section 4(f) and assessing use.

Section 4(f) Avoidance Alternatives

Were feasible and prudent avoidance alternatives assessed?

Yes. Three avoidance alternatives were identified. None were determined to be feasible and prudent.

Was the alternative with Least Overall Harm selected and properly supported?

Yes. With no feasible and prudent avoidance alternatives, only one alternative remained.

Did all possible planning to minimize harm occur?

Yes. Minimization efforts included narrowing the median width, increasing lateral taper rates to the steepest acceptable rates within highway geometric design standards, reducing the outside shoulder width from 10 feet to 8 feet, and constructing retaining walls to allow vertical slopes between the new roadway and the original ground.

In their objection letter to the ACHP, Makani Hou o Kaloko-Honokōhau offered a proposal to avoid impacts to historic properties that they believed qualified for consideration under Section 4(f). They proposed to narrow the median for the entire length of the project (including the section north of Hina Lani Street). Although this proposal was rejected in the northern section of the project to allow for additional travel lanes to be added in the future, the median south of Hina Lani Street was narrowed to minimize impacts along the NPS boundary.

Additional “Use” during Construction

Was the Section 4(f) evaluation revisited based on additional “use” during construction?

Yes. The FHWA Hawaii Division concluded that, even with the additional “use,” the alternative with the least overall harm remained the same, and that all possible planning to minimize harm would be addressed in the amended Section 106 MOA to resolve adverse effects to historic properties.

PART TWO: IMPLICATIONS FOR PROJECT DELIVERY

With various regulatory requirements to uphold in a complex design-build project environment, challenges arose in ensuring that the mitigation commitments identified in the Section 106, Chapter 6E, and Section 4(f) processes were tracked and completed based on the most up-to-date information. The following findings (#4 – #9) discuss resulting impacts to project-delivery phases and the damages that occurred.

FINDING #4: Lack of written protocols and procedures at HDOT led to confusion when implementing mitigation throughout the project-delivery process.

Separate but related mitigation commitments were outlined across multiple documents produced to satisfy Section 106, Chapter 6E, and Section 4(f). Without formal protocols and procedures in place, HDOT and the FHWA Hawaii Division encountered challenges in ensuring that the mitigation commitments for Phase 2 outlined in these documents were carried through. Among these challenges were issues with version control of contracting and mitigation documents and tracking mitigation commitments.

Incorporating Mitigation Commitments into Design

Were relevant mitigation commitments and mitigation provisions related to Section 106, Chapter 6E, and Section 4(f) included in the RFP and subsequent contract change language?

No/Unclear. HDOT released the RFP in 2009 before most of the historic sites were identified in the 2012 AIS and before the redesign and mitigation measures were finalized. The language in the RFP regarding mitigation commitments is not specific to the Queen Ka‘ahumanu Highway Widening, Phase 2. In August 2013, a contract change order was processed before the APMP was finalized.

In August 2013, HDOT processed a contract change order before the Section 4(f) document was completed. Correspondence indicates that staff intended to mark-up the contract by hand to reflect requirements of the Section 4(f) document, but it is unclear if this step was taken after the Section 4(f) document was finalized.

Were mitigation commitments across Section 106, Chapter 6E and Section 4(f) tracked and included throughout the design-build process?

Not always. Based on several interviews, it appears that HDOT and the FHWA Hawaii Division had little experience with design-build projects at the time that Phase 2 began. Several interviewees also noted that, given the size and location of the project, it was incredibly challenging for individuals managing the project onsite and remotely. According to several interviewees, the combination of a highly complicated project coinciding with a project-delivery team inexperienced with design-build techniques created version control and tracking issues.

The plans contained several questionable elements. For example, within the *Roadway Plan and Profile* plan sheets, a note was added, stating: “The mitigation recommendations for archeological sites located within the project limits are currently under review by SHPD and pending final approval. Upon receipt of approval, the recommended treatments will be

incorporated in the affected construction plans and submitted to HDOT for review and approval.” However, upon review of other provided documents, it is unclear if the final mitigation recommendations were updated. Additionally, not all of the identified SIHPs included a note with mitigation recommendations on the project plans. Although the plans do contain information about best management practices for water quality requirements, there appear to be no mention of best management practices for other environmental or historic property concerns appended to the construction plans.

The retaining wall included in the Final 4(f) assessment to reduce use of the Māmalahoa Trail was not incorporated into the final plans. There are conflicting accounts about why the retaining wall was not included. One interviewee suggested that value engineering¹⁴ may have happened and that the wall was removed as a result of that process. However, other correspondence indicated that value engineering was not done and that the retaining wall had been included, but was removed due to confusion about the final mitigation commitment. This confusion centered on the fact that the earlier MOA allowed a certain amount of damage to occur to the property.

The median redesign to avoid use of the Road to Sea Trail was incorporated into the final plans. Avoidance-related measures to other Section 4(f)-protected properties were incorporated into the final plans.

Were relevant Section 106 properties located and identified correctly in the project plans?

No. The *mauka* (towards the mountain) portion of the Māmalahoa Trail was not included on the construction plans at any point throughout the design-build project because this part of the project was not included in the original APE. The accuracy of the SIHP location on the project plans has been called into question based on a letter from HDOT to GBI in September 2016, the AMR, as well as several interviews. It appears as if the initial project plans used GPS data as opposed to more accurate land-survey data when siting specific SIHPs on project plans. In the letter from HDOT to GBI, HDOT states that it is a contract stipulation to hire a surveyor to confirm the location of the historic properties. During the interviews, several parties shared that there do not appear to be any procedures or checkpoints in place to verify that properties are being identified correctly in the project plans.

Was the Section 4(f) information properly translated to the construction plans?

Not all. For the Road to Sea Trail (SIHP #10714), the median and shoulder for the adjacent roadway were both narrowed in accordance with the mitigation commitment from the Section 4(f) document, and a retaining wall (Retaining Wall C) was installed. Figure 2 below shows Road to Sea Trail in the Final Design Plans, and Figure 3 shows it in the Redesign Resubmittal Plans to demonstrate this change. In a letter from HDOT to GBI in September 2016, HDOT noted that “archaeological site locations shown on the construction plans are not accurate and as a result, approximately 16-feet of Feature A and 20-feet of Feature C were destroyed.” In interviews, it was also suggested that barrier fencing was placed incorrectly around this property

¹⁴ The FHWA defines value engineering as “a systematic process of review and analysis of a project, during the concept and design phases, by a multidiscipline team of persons not involved with the project to provide recommendations for: 1) providing the needed functions safely, reliably, efficiently, and at the lowest overall cost; 2) improving the value and quality of the project; and 3) reducing the time to complete the project.” For more information, see <https://www.fhwa.dot.gov/ve/>.

because the Section 4(f) document had not been shared with the archaeological monitors and that fencing was based off of earlier mitigation commitments.

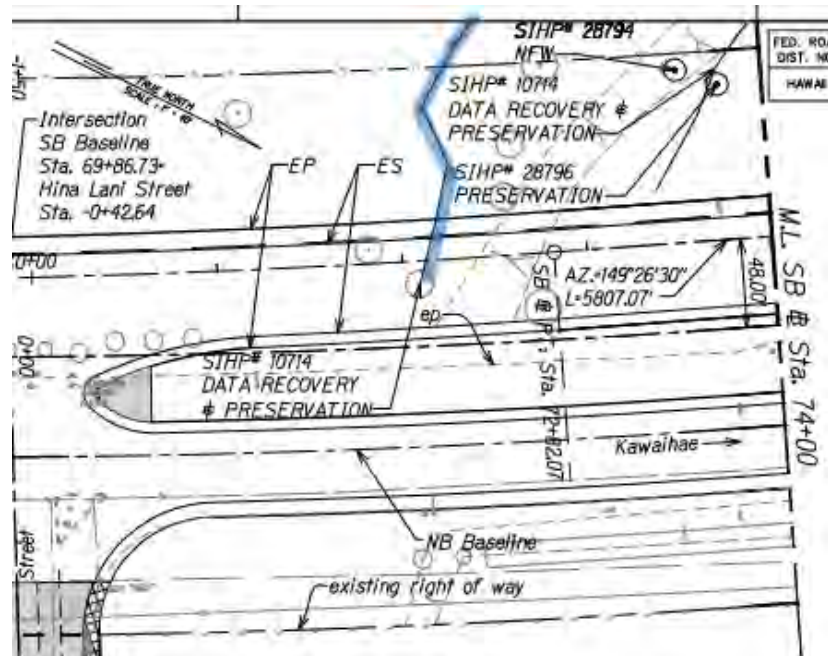


Figure 2: Road to Sea Trail (SIHP #10714, highlighted in blue) in Final Design Plans

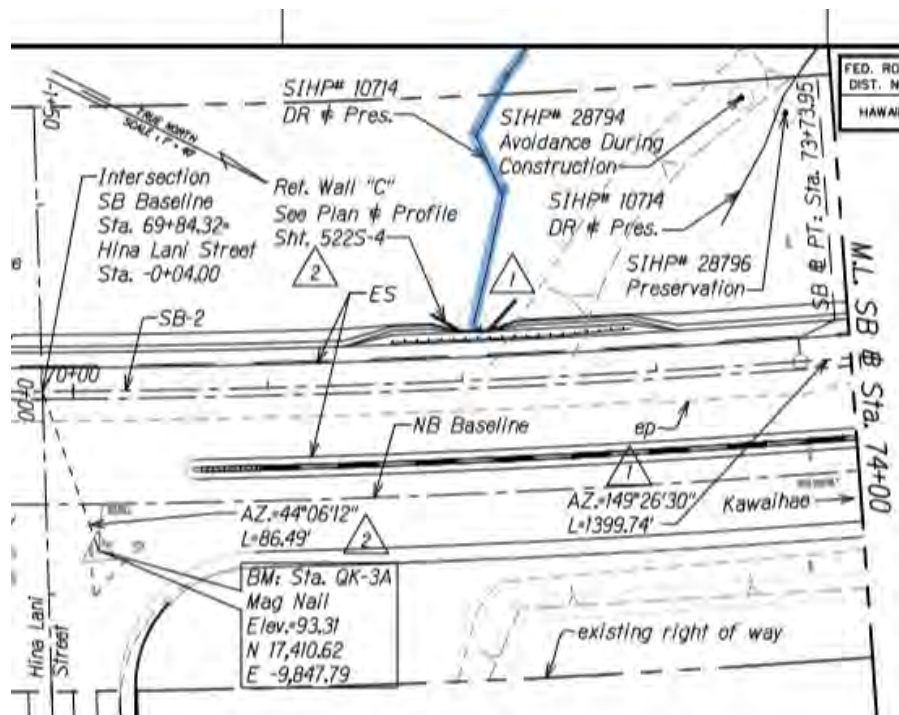


Figure 3: Road to Sea Trail (SIHP #10714, highlighted in blue) in Redesign Resubmittal Plans

For the *makai* (towards the ocean) section of the Māmalahoa Trail (SIHP #0002), the retaining wall from the Section 4(f) document was never added to the plans. From the three plan sets (Compiled Final Plan Set, Redesign Drawings, Redesign Resubmittal) and the as-builts, it does not appear that a retaining wall was ever planned for, designed, or constructed to limit the amount of grading to the trail. In Figure 4 below (same representation for all plan sets), there is no indication of a retaining wall. Without the wall, approximately 158 feet of the trail was impacted, whereas if the retaining wall had been included, 90 feet of the trail would have been impacted, as indicated in the September 2016 letter from HDOT to GBI.

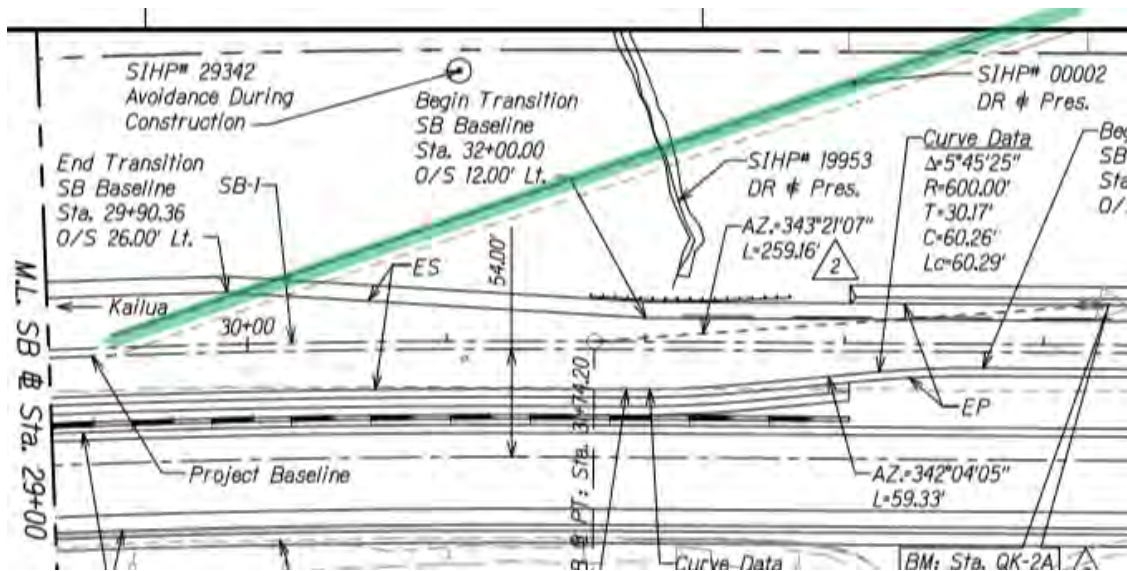


Figure 4: Māmalahoa Trail (SIHP #00002, highlighted in green) in Final Design Plans

Completing Appropriate Mitigation during Pre-Construction

Was data recovery and fence installation carried out in accordance with the APMP and the DRPP?

Based on information gathered from document review and various interviews, it appears that fencing was installed in accordance with the APMP and DRPP. The fence installation team included cultural and archaeological monitors as well as construction personnel. Interviews suggested the following steps were used to install buffer fencing:

- 1) GPS information was used to help locate the general area for each SIHP;
- 2) These SIHPs were then confirmed visually;
- 3) The relevant mitigation plan (APMP or DRPP) was referenced to determine distance; and
- 4) The location of the fencing was measured relative to the SIHP, based on distances specified in the plan.

If these steps were followed, it would be unlikely that the buffer fencing had been placed in the wrong position relative to the SIHP. It seems more likely that incorrect documents were referenced when placing the buffer fences. Interviewees noted that mitigation commitments made in the Section 4(f) document were not communicated to the archaeological monitors nor the cultural monitors, and likely not to the construction team either. Fencing and mitigation commitments were based on the APMP and the DRPP, which were finalized before the Section 4(f) document.

However, there is at least one discrepancy regarding the description of how the fencing was installed. The 2020 AMR notes that at least one set of buffer fencing was installed in the wrong location based on earlier engineering documents. It is possible that two methods were used to install the buffer fencing, especially where the fences aligned with construction or grading limits.

FINDING #5: Damage to the *mauka* (towards the mountain) portion of the Māmalahoa Trail occurred because it was not identified within the Area of Potential Effects (Section 106) or project area (6E) in the 2012 Archaeological Inventory Survey.

Because grading at the intersection at Kealakehe Parkway was not included in the APE or project area, no effects analysis was conducted under Section 106 and Chapter 6E and no use analysis was conducted under Section 4(f). Additionally, the construction baseyard on the northern side of Kealakehe Parkway was not included in the project area or the original APE. The portion of the Māmalahoa Trail that intersected with the location of the construction baseyard was not factored into the Section 106 and Chapter 6E effects assessment or the Section 4(f) use assessment for the Māmalahoa Trail.

The delay in updating the APE/project area (and thus later steps in the Section 106 and Chapter 6E processes) based on project changes (grading plans, baseyard) caused the damage to occur before the impacts from the project on the trail could be assessed and resolved.

FINDING #6: Damage to the *makai* (towards the ocean) portion of the Māmalahoa Trail occurred because the Section 4(f) document and key information it contained were not shared with necessary parties.

The Section 4(f) approval in 2015 included the addition of a retaining wall to the project redesign to minimize use of the Māmalahoa Trail¹⁵. This Section 4(f) commitment should have been reflected in the final construction plans and an updated APMP. As described under Finding #4, it was not included because the final mitigation commitments were not effectively communicated from the FHWA Hawaii Division to HDOT and from HDOT to relevant contractors.

FINDING #7: Damage to the Road to Sea Trail occurred because the Section 4(f) document and key information it contained were not shared with necessary parties.

Critical changes to the effects determination and mitigation measures described in the Section 4(f) document were not shared with relevant contractors.

FINDING #8: Buffer breaches for three SIHPs (#19947, 28783, 28811) likely occurred because of inadequate separation between the start of the buffer and the edge of construction grading.

For the three SIHPs that experienced buffer breaches, the start of the buffer coincided with the edge of the grading limits. Due to their size, construction machines can be difficult to stop suddenly even if equipped with GPS alarms. Further, the amount of material being pushed makes

¹⁵ Under Section 4(f), the use of the Māmalahoa Trail had been reduced to 90 feet; what was outlined in the MOA allowed up to 200 feet to be graded. This commitment was not clearly communicated as superseding the treatment outlined in the 2015 MOA, which specifies that the construction plans will be designed to adhere to the 1999 MOA specifications for the Māmalahoa Trail.

it likely that some of the ground material will breach the buffer in these situations. For these three SIHPs, the distance between the buffer fence and the site was large enough that it appeared to prevent damage to the property even if the buffer was breached. However, there were several properties where avoidance was specified that had a distance of two feet or less between the buffer fencing and the property. Given the discrepancy in the description of how the fencing was installed (discussed above under Finding #4), it is also possible that the buffer fencing for these SIHPs was placed incorrectly based on earlier engineering documents. If the fencing was placed based on the location of grading limits instead of being measured directly from the SIHP, the alignment of the buffer fence relative to the SIHP may have been incorrect.

FINDING #9: Lack of checkpoints throughout the project-delivery process delayed discovery of additional adverse effects and led to failed compliance with notification procedures outlined in the 2015 MOA and damaged trust among project participants.

In conducting the document review and as shared by participants during the interviews, the After-Action Analysis team found that relationships among HDOT, FHWA Hawaii Division, and the Section 106 consulting parties suffered as a result of various breakdowns during the project. Written and verbal communication among the parties subsequently suggested a lack of clarity, trust, and understanding. These breakdowns involved communication, document version control, and problems tracking mitigation commitments. The following outlines compliance issues that occurred with the procedures for additional adverse effects and post-damage discovery.

Compliance with Procedures for Additional Adverse Effects and Post-Damage Discovery

Were the damages discovered in a timely manner?

No. Although there were cultural and archaeological monitors onsite, months elapsed between the discovery that additional adverse effects had occurred and the adverse effects themselves. Based on the construction schedule, HDOT estimated that the adverse effects to the Māmalahoa and Road to Sea trails occurred in the fall of 2015, as shared in meeting minutes from a 2016 consulting parties meeting. A contractor discovered the damage during the summer of 2016 after noticing the plans did not match the construction site layout.

The Section 4(f) approval included design changes to reduce adverse effects to historic properties. As described in Finding #5, these changes were not reflected in the construction plans or the APMP. Although both archaeological and cultural monitors were onsite during construction, the additional adverse effects were not discovered at the time because onsite staff (including the monitors) were following plans that did not reflect the most recent mitigation commitments from the Section 4(f) approval. Another contributing factor to the additional damage was because the SIHPs were not located correctly on the project plans. This is because less precise GPS data, not data derived from a construction-related ground survey,¹⁶ was used to site the historic properties on the project plans (see discussion above).

¹⁶ GPS data derived from the AIS did not have sufficient accuracy for the development of construction plans. Higher precision ground survey techniques should have been used to site the SIHPs for the project plans.

One related issue of note was the seemingly limited oversight role of the FHWA Hawaii Division during the Queen Ka‘ahumanu Highway Widening, Phase 2. During interviews, it was shared that the Division performs a higher level of oversight for Projects of Division Interest (PODIs) and that the Division identifies projects as PODIs on a risk basis; however, the PODI process was not in place at the time of the Queen Ka‘ahumanu Highway Widening, Phase 2. It was noted on one interview that the project could have been considered a “de facto” PODI due to its complexity. While the PODI process was not established at the time of the project, the FHWA Hawaii Division should have recognized the need for a strong oversight role, particularly when issues arose such as the discovery of damages and subsequent notification to consulting parties.

Was construction halted and stop-work orders issued?

Yes. Once the damage was confirmed, stop-work orders were issued from HDOT to the contractor via email.

Were the consulting parties notified of damage in a timely and appropriate manner?

No. Notification to consulting parties did not occur in accordance with the 2015 MOA, which stipulated that, should potential historic properties be discovered or unanticipated effects on identified historic properties found during construction within the ROW, HDOT would notify the signatories, concurring parties, and consulting parties within 72 hours.

As mentioned above, the damage was not confirmed by the FHWA Hawaii Division and HDOT until August 2016. Consulting parties were notified in September 2016, more than 72 hours after the damage was discovered and almost a full year after the estimated damage and one or more months after the damage was confirmed.

Were other appropriate measures taken after the damage was discovered?

Yes. Following the notification to the consulting parties, a consulting parties meeting was held in December 2016 to discuss the damage, after the parties had been invited into the field for a site visit. An AIS was also completed at this time. Although these steps were important to discuss and document the additional adverse effects, they should have occurred earlier after the damage was verified.

A monitoring protocol was written-up and implemented for daily use at the construction site. This protocol clearly identifies the chain of command and codified existing monitoring procedures that were already occurring on site.

Construction was completed in 2019. The 2015 MOA was amended on March 11, 2020, before the original expiration date of March 17, 2020, to allow time for the outstanding MOA commitments to be completed and for consultation to occur on additional mitigation to address the adverse effects. HDOT, the FHWA Hawaii Division, and the consulting parties are expected to sign a second amendment to the 2015 MOA in 2021.

FINDING #10: Through the formal dispute process, FHWA has committed to the development of a Native Hawaiian Consultation Protocol Agreement. The FHWA has also committed to ongoing and future work to address mitigation and correct historical deficiencies at both the FHWA Hawaii Division and HDOT.

As stated above, since the signing of the first amendment to the MOA, Makani Hou o Kaloko-Honokōhau filed an objection letter with the ACHP on August 13, 2019. This objection letter included both general and more specific objections. The general objections primarily related to the lack of training and expertise related to Section 106 and Chapter 6E within HDOT and the FHWA Hawaii Division. More specific objections focused on: 1) the need for FHWA to have nationwide protocols for consulting with Native Hawaiians; 2) the need for a separate MOA with HDOT on how to carry out consultation with the NHOs; and 3) how the various 2015 MOA stipulations have been carried out.

The FHWA provided a response to this letter in May 2019. In its response to the general objections, the FHWA noted that it has hired facilitators for the Section 106 consultation meetings, is setting up an online Section 106 tutorial (including components on Native Hawaiian consultation), and that HDOT has taken various steps to build relationships with NHOs. While the FHWA indicated in this response that it will not develop a separate MOA for consultation, it agreed that future MOAs should have more clarity on which stages should include consultation. Since the response to this letter, the FHWA and HDOT have more recently committed to developing formal protocols for consulting with Native Hawaiians within three years.

On July 8, 2020, the FHWA informed the ACHP of the objections from Makani Hou o Kaloko-Honokōhau and requested that the ACHP provide its advisory comments on the dispute. Makani Hou o Kaloko-Honokōhau filed a second objection letter with the FHWA National Liaison to the ACHP on July 9, 2020, specifically related to objections on the “closeout” of 2015 MOA stipulations. With both of these objection letters in mind, the ACHP wrote a letter to the FHWA Hawaii Division Administrator on August 10, 2020 with its responses to Makani Hou o Kaloko-Honokōhau’s concerns. The ACHP particularly echoed the need for increased communication, transparency, accountability, and timeliness, which it noted could be addressed, in part, through the establishment of consultation protocols and staff trainings on consultation with Native Hawaiians and the Section 106 process.

On September 24, 2020, the FHWA Hawaii Division, HDOT, and consulting parties participated in a Section 106 consultation meeting specifically focused on Makani Hou o Kaloko-Honokōhau’s objections. This meeting is part of a general pattern of increased communications in recent years, with Section 106 consultation meetings taking place on a more regular basis in 2019 and 2020, as the agencies and consulting parties work to refine the MOA stipulations and finalize the second amendment to the 2015 MOA in 2021. With this more regular communication and future commitments, including the development of formal consultation protocols, the FHWA Hawaii Division appears to have taken on more of its oversight role and is working with HDOT to address mitigation and correct historical deficiencies in the consultation and project development process.

SUMMARY OF FINDINGS

The After-Action Analysis findings reflect the results caused by compliance that initially was not a reasonable nor good faith effort, combined with weak project management practices. Inaccuracies in the Section 106 process had implications for the Chapter 6E and Section 4(f) processes, which had further impacts on the project-delivery phases. Without written protocols and procedures in place, confusion occurred and led to the property-specific damages of the Māmalahoa Trail, the Road to Sea Trail, and buffer breaches.

As presented in this section:

- Damage to the *mauka (towards the mountain)* portion of the Māmalahoa Trail occurred because it was not identified within the APE (Section 106) or project area (Chapter 6E) in the 2012 AIS. Because grading at the intersection at Kealakehe Parkway was not included in the APE or project area, no effects analysis was conducted under Section 106 and Chapter 6E and no use analysis was conducted under Section 4(f).
- Damage to the *makai (towards the ocean)* portion of the Māmalahoa Trail occurred because the Section 4(f) document and key information it contained were not shared with necessary parties. A retaining wall was included in the redesign to minimize use of the trail, but this commitment was not ultimately implemented.
- Damage to the Road to Sea Trail occurred because the Section 4(f) document and key information it contained were not shared with necessary parties. Critical changes to the effects determination and mitigation measures described in the Section 4(f) document were not shared with relevant contractors.
- Lastly, buffer breaches for three SIHPs (#19947, 28783, 28811) likely occurred because of inadequate separation between the start of the buffer and the edge of construction grading.

The damage to the two trails and the buffer breaches were further exacerbated by the poor communication and coordination with Section 106 consulting parties, particularly in the late discovery of the damages and subsequent notification to the consulting parties of these damages. As a result, relationships and trust among HDOT, the FHWA Hawaii Division, and the consulting parties suffered.

More recently, HDOT and the FHWA Hawaii Division appear to be committed in taking steps to strengthen their relationships with the consulting parties; however, it will be essential that HDOT and the FHWA Hawaii Division continue to follow through on these actions. The Queen Ka‘ahumanu Highway Widening, Phase 2, has had a long history with many challenges. Delivering on the commitments made and identifying other improvements are needed to rebuild trust and bolster HDOT’s transportation program.

Section 5: Recommendations

Through the development of this report, it became clear to the After-Action Analysis team that there are various steps that HDOT and the FHWA Hawaii Division need to take to improve communication, consistency, and transparency in project delivery. The recommendations presented in this After-Action Analysis are based upon feedback shared during the interviews as well as findings gathered from the data collection and document review.

The After-Action Analysis team strongly encourages HDOT and the FHWA Hawaii Division to implement these recommendations and pursue activities that will ensure the protection of historic properties during the construction of future transportation projects. Following through on these recommendations poses the opportunity for HDOT and the FHWA Hawaii Division to minimize project delays and costs, strengthen compliance from the earliest stages of project delivery, and build trust with stakeholders. Failure to do so will likely increase the risk of project delays, costs, non-compliance, communication breakdowns, and increased oversight of the HDOT transportation program.

The recommendations presented below are organized by the following themes: 1) Improving Coordination across Project Phases; 2) Strengthening Communications and Coordination; 3) Clarifying Processes and Protocols; 4) Reinforcing Actions during Construction; and 5) Strengthening Subject-Matter Expertise and Organizational Structures.

Improving Coordination across Project Phases

- **Ensure the current project design always matches the current environmental analysis.** During the environmental review phase, when the scope of a project changes, when different design features are introduced, or when new environmental analysis on a property is completed, HDOT and the FHWA Hawaii Division should determine how this new information affects the project and the property. This may result in a need to revise the project or update the environmental analysis.

As the scope and design of a project changes during project development, such changes can cause different effects on environmental properties. As time passes during project development, environmental changes can occur (such as a newly identified property). Such changes to properties can cause different effects from the project. The HDOT project management team, as well as the FHWA Hawaii Division in its oversight role, needs to be constantly aware of changes to the project and changes to the environment, and how one affects the other. This more comprehensive project management approach should minimize project delays and cost increases associated with the need to revise work repeatedly, while better protecting properties and ultimately achieving a better outcome. If HDOT and the FHWA Hawaii Division do not ensure such coordination, the risk increases for project delays, cost increases, non-compliance, erosion of trust with stakeholders, and less-than-optimal project decisions.

- **Establish a process for ensuring mitigation commitments are coordinated and reconciled during the environmental review phase, carried through subsequent phases of project delivery, and implemented.** HDOT and the FHWA Hawaii Division should establish a process that allows for the appropriate HDOT branches, including the Design Branch, ROW Branch, and Construction and Maintenance Branch, to be aware of any mitigation commitments coming out of the Planning Branch. If any branch within HDOT proposes to change any mitigation, this change needs to be fully coordinated within the agency before it is implemented. Having better project management coordination within HDOT will allow the agency to be able to pivot more quickly when the need for changes arises and provide an opportunity for staff across various branches to have a better understanding of the entire project development and delivery process, not solely the purview of their particular branch.
- **Establish a process for tracking all decision points throughout project development and implementation.** On a broad level, HDOT and the FHWA Hawaii Division would benefit from having an established process to ensure coordination between project phases. Not having an agreed-upon process risks further challenges in coordination and communication. Such a process should include:

 - General framework of all decision points and who makes those decisions, as well as a process for verifying those decisions and who needs to be in agreement that they are accurate and complete (e.g., APE verification, buffer verification, construction plan verification).
 - Procedures related to the design-build process that ensure an adequate accounting of version control and tracking mitigation commitments.
 - Specifications to ensure archaeological land surveying is completed prior to design and construction.
 - General framework to ensure sufficient oversight, ownership, and accountability in the project delivery process despite reliance on contractors and consultants.
 - Processes for version control and carrying commitments through each step of the process, including:
 - Identifying environmental and historical preservation commitments from NEPA, Section 106, Chapter 6E, and Section 4(f), and carrying them through design to construction, and ensuring that they are fulfilled.
 - Improving communication between the environmental and design phases completed on Oahu and the construction phase completed by an HDOT district on another island, including through standardized transition meetings and ongoing communication procedures.
 - Assigning responsibility for ensuring the transfer of site-specific buffers and other mitigation measures from the AMP into the construction plan, as well as mitigation measures into the construction specifications and contracts.
 - Determine processes for additional steps that must be taken when the project design is modified, including: returning to archaeological surveys, re-engaging consulting parties, re-evaluating commitments, and establishing mitigation measures.

Strengthening Communications and Coordination

- **Develop and implement communication protocols with consulting parties as part of the Section 106 process.** The need for written processes and protocols is a key issue identified through the After-Action Analysis. It is strongly recommended that HDOT and the FHWA Hawaii Division establish written protocols to allow for clearer communications and expectations of roles and responsibilities, particularly with Section 106 consulting parties. These protocols should include practices to support consultation pre-project initiation, including: inventory development, an up-to-date list of consulting parties, and relationship-building and trust exercises. Additional elements that should be included in the protocols are as follows:

 - Recognizing the unique knowledge and experience of consulting parties, especially NHOs, in identifying historic and culturally significant properties.
 - Continuing constant communication from early consultation through construction and through the completion of all MOA stipulations, including through quarterly reports and individual check-ins with consulting parties on a quarterly basis to share updates on progress.
 - Adopting a collaborative tone and attitude for all consultation procedures, including the meaningful consideration of suggestions and alternatives and the provision of adequate explanations, when not feasible.

- **Ensure OHA and other appropriate consulting parties and/or NHOs are engaged at the appropriate point(s) during Section 106 and Chapter 6E processes.** Additional coordination by project applicants, and SHPD as needed, in engaging OHA, and other appropriate consulting parties and/or NHOs, is recommended. HDOT should consider clarifying the responsibilities of the project applicant in engaging OHA and/or SHPD, particularly when there are criterion E properties identified to initiate the Chapter 6E process. Having OHA as well as other consulting parties and/or NHOs engaged at the appropriate points should streamline project delivery and enhance project decisionmaking. If these parties are not engaged at the appropriate points, HDOT project delivery might be hindered.

- **Ensure prime contractors communicate mitigation commitments to sub-contractors.** HDOT should ensure that there is clear communication and coordination between itself and prime and subcontractors. This includes making clear the responsibility of HDOT and prime contractors to notify subcontractors of mitigation commitments and ensure protection of historic properties during construction. By communicating these commitments appropriately, HDOT should be able to improve regulatory compliance and minimize the risk of unanticipated project delays and cost increases.

- **Improve the engagement of archaeology and cultural monitors during construction.** HDOT, with support from SHPD as appropriate, should revisit how and when archaeology monitors and cultural monitors are engaged. As these monitors are onsite during construction, clear communications between all onsite parties, including monitors, contractors, and HDOT personnel, is essential to ensure activities are carried out

correctly. Not engaging archaeology and cultural monitors fully during construction puts HDOT at high risk for errors to occur.

Clarifying Procedures and Protocols

- **Consolidate all mitigation commitments into one place within the environmental documentation.** HDOT and the FHWA Hawaii Division should consider consolidating all final mitigation commitments into one document/plan that is easy for personnel across all stages of a project to reference. Mitigation commitments spread among multiple documents, and possibly multiple versions of the same document, can cause confusion. Having all mitigation commitments in one place should lead to clearer communication about these commitments as the project proceeds from one phase to another. It also should increase the likelihood that the mitigation commitments are ultimately enacted, thus ensuring compliance with relevant laws and regulations. If HDOT and the FHWA Hawaii Division do not clarify mitigation commitments, the risk increases for non-compliance and other issues, such as cost overruns.
- **Include all construction-related mitigation commitments in the construction contract.** HDOT and the FHWA Hawaii Division should include details about construction-related mitigation commitments in the contract established for construction. For example, these commitments could be identified as special provisions within the construction contract. By adding all construction-related mitigation commitments in the construction contract, HDOT and the FHWA Hawaii Division will position themselves in a better place to ensure mitigation commitments are upheld and implemented. Without having all commitments in the contract, HDOT and the Division, at a minimum, stand to encounter communication challenges.
- **Commit to a set of standards for the development and execution of MOAs.** When establishing MOAs, HDOT and the FHWA Hawaii Division should ensure that MOAs have enough content and force to address the need(s) in question. Doing so will allow HDOT and the FHWA Hawaii Division to incorporate common elements quickly and seamlessly. Without such standards, HDOT and the Division risk not including critical information, which may have consequences later on for project delivery and compliance. Suggested elements for these standards include:

 - Sufficient detail on timelines and deadlines, which should be reasonable and attainable, and on a reporting system to ensure timelines are followed;
 - Sufficient detail on how the stipulation will be accomplished, and with what type of involvement and/or engagement from which consulting parties;
 - Sufficient detail (or understanding) of the funding and resources that are available to carry out each commitment; and
 - Sufficient detail on a notification procedure for unanticipated adverse effects, including a reasonable and attainable timeline, steps to follow, and points of contact for all of the consulting parties.

- **Establish procedures for construction-related communication.** Having clearly defined processes will help HDOT pass along directions from one level of staff to another, including to contractors and archaeology and cultural monitors, so that everyone is aware of their and each other's responsibilities. Not having such procedures in place increases the likelihood for miscommunication and mistakes. These procedures should:
 - Define roles and responsibilities for each individual, presenting a chain of command, and clarify any differences between Section 106 and Chapter 6E responsibilities.
 - Identify roles for all specific steps (e.g., instead of “place buffer around each site,” specify who will measure the buffers and establish markers, who will physically install the fencing, who will ensure the correct distance from the site is maintained, who will verify their placement, and who will monitor them over time).
 - Establish daily coordination meetings among contractors, archaeological monitors, and cultural monitors, with coordination between the monitors and the contractor following the meeting to verify buffers in person if work will take place close to a preservation or avoidance site.
 - Provide a clear process for verifying buffer locations on the ground and on the construction plan to confirm that they match and adequately protect the sites and requiring the contractor to provide a confirmation of this before construction begins, with a signature and date.
 - Develop protocols for how SIHPs and up-to-date mitigation information will be shared in the construction plans. Consider adding historic preservation best management practices at the beginning of all plan sets.
 - State that both archaeological and cultural monitors have the authority to stop work.
 - Include Chapter 6E regulations whenever alternative procedures are not specified (i.e., in the case of burials or inadvertent findings).
 - Provide the monitoring firms with copies of the construction plan, at least in the form of an overview that includes where work will be relative to the preservation and avoidance sites, archaeological buffers, and construction equipment buffers.
 - Detail the types of documents that will be generated throughout the project (logs, forms, reports, etc.), as well as stating very specifically for each document produced: who will generate them, with whom they will be shared and through what means, who will review them, and what next steps are needed based on that review.

- **Reassess the 72-hour window for notification of damages.** The FHWA Hawaii Division and HDOT, in coordination with SHPD and consulting parties, should reassess whether the current 72-hour window for providing notice of damage to historic properties during construction is reasonable and meets the needs of all parties. As part of this reassessment, the Division and HDOT should clarify whether the 72-hour window is reasonable. The Division and HDOT should further establish a process for notifications in the event a re-evaluation is needed and determine whether there should be different levels of notification depending on the circumstance. The FHWA Hawaii Division and

HDOT should ensure that whatever process is established serves as a mechanism to engage consulting parties quickly, particularly when an issue or potential issue arises. Coordination with SHPD, OHA, and other interested stakeholders is further recommended when establishing this process to allow for appropriate inputs. Having a formal process in place, and implementing this process when needed, should allow for more timely notifications. Without such a process, the FHWA Hawaii Division and HDOT risk encountering similar challenges as identified through this After-Action Analysis.

- **Better clarify how the requirements for Section 106 and Chapter 6E have been met.** While there are similarities between the two processes, there are differences as well. By better clarifying their Section 106 and Chapter 6E activities, HDOT and the FHWA Hawaii Division will help improve their regulatory compliance, thus minimizing the legal risk. Not doing so risks project delays, increased cost due to additional mitigation, potential non-compliance, and damage to stakeholder relationships. The following is recommended for better demonstrating compliance with these two laws:
 - *Separate Section 106 and Chapter 6E documentation.* While some of the coordination with SHPD and others can potentially be combined for Section 106 and Chapter 6E processes, additional effort is needed by the FHWA Hawaii Division and HDOT so that documentation clearly shows the regulatory requirements while using correct terminology. Analysis and documentation can be combined where similar, but better clarity is needed. For example:
 - The “project area” under Chapter 6E may be different from the APE under Section 106. The documentation should clearly define each boundary for each law using the proper terminology.
 - If there are historic properties that qualify under Chapter 6E but not Section 106, these should be identified as such.
 - If mitigation is intended to satisfy the requirements of Chapter 6E and for Section 106, HDOT and the FHWA Hawaii Division should clearly communicate this to SHPD.
 - *Clarify steps needed to satisfy requirements under Section 106 and Chapter 6E.* HDOT is encouraged to coordinate with SHPD to confirm whether the resolution of adverse effects (MOA) under Section 106 is intended to satisfy mitigation requirements under Chapter 6E.

Reinforcing Actions during Construction

- **Ensure buffer fencing is installed in the correct locations.** HDOT should take all necessary steps to confirm the correct installation of buffer fencing in the appropriate locations and to strengthen buffer-fencing specifications, such as:
 - Buffer individual sites, even when using perimeter project fencing.
 - Include buffer fencing on partial preservation and interim preservation sites.
 - Add a construction zone/construction equipment buffer to each individual site.
 - Prioritize use of land-survey data over GPS data.

- Ground-truth all SIHP buffer and protective fencing before construction commences.

Taking these steps to ensure the proper installation of buffer fencing will help maintain trust and likely limit project delays and increased costs.

- **Expand buffer distances.** HDOT should allow for additional buffer distance between the buffer fence and ground-disturbing construction activity. Extending this distance could potentially help provide additional space for construction equipment as needed and prevent issues in equipment moving too closely to the buffer fence. This should minimize the risk of unanticipated buffer breaches, which could cause unanticipated damage to properties, resulting in project delays, cost increases, and non-compliance.

Strengthening Subject-Matter Expertise and Organizational Structures

- **Ensure sufficient historic and cultural resource staff capacity to accommodate the demand for the HDOT transportation program.** HDOT should review its current staff and consultant capacity to make sure it can address current and future demands and meet projects' historic and cultural needs. HDOT must have the technical expertise required to meet these needs. Having the appropriate technical expertise in place will help HDOT better meet project schedules, better protect historic and cultural properties, lead to better project decisions, improve trust and confidence with stakeholders, and meet regulatory requirements. If HDOT does not have sufficient capacity, it will increase the likelihood of costs and project delays, among other factors.
- **Consider the cultural landscape and religious significance of historic properties when assessing the effect from proposed projects on such properties.** HDOT, with support from SHPD as appropriate, needs to consider the full "cultural landscape" in determining cumulative effects from projects, instead of focusing solely on direct effects to particular properties. This should ensure better protection of properties, leading to better project decisions. If HDOT does not consider such perspectives, it suffers the risk of project delays, increased cost, non-compliance, and erosion of trust among interested parties.
- **Seek FHWA internal subject-matter expertise when questions arise.** The FHWA Hawaii Division is encouraged to engage colleagues within other FHWA offices, including specialists in the FHWA Office of Project Development and Environmental Review and the FHWA Resource Center, as necessary, to build staff knowledge and allow for an additional layer of support. This should enable better oversight of the Federal-Aid Highway Program. Not raising questions places risks on the FHWA Hawaii Division for potential non-compliance.
- **Establish an ongoing training program on Section 106, Chapter 6E, and Section 4(f).** HDOT and the FHWA Hawaii Division are encouraged to establish a training program for HDOT, the Division, SHPD, OHA, NHOs, and other relevant stakeholders (such as managers of parks and recreation areas for Section 4(f)). The Division and HDOT should

consider training opportunities both for long-standing and newer staff to ensure continuity of staff knowledge during times of transition or turnover. This training program should recognize NHO special expertise and potentially include a session approved by NHOs concerning cultural properties, historic properties, and Traditional Cultural Properties. Having this type of training program in place should enable a better understanding of historic properties, and improve compliance and project delivery. Without a strong knowledge by staff of these properties and requirements, HDOT and its relevant partners stand to risk greater opportunities for error, project delays, and non-compliance.

- **Reassess the FHWA Hawaii Division’s role in oversight of HDOT projects.** The FHWA Hawaii Division should consider its oversight role in light of HDOT projects. Having a consistent methodology or process to identify when to engage in HDOT projects is encouraged. The FHWA Hawaii Division should also revisit how it identifies projects as PODIs to ensure that complex projects like the Queen Ka‘ahumanu Highway Widening, Phase 2, have the appropriate Division resources and oversight. This should help the Division assess risk to the Federal-Aid Highway Program. The FHWA Hawaii Division will need to increase its oversight if HDOT’s implementation of the Federal-Aid Highway Program does not improve.
- **Reassess the FHWA Hawaii Division’s role in oversight of Section 106 roles and responsibilities.** The FHWA Hawaii Division should take actions to allow for better oversight of Section 106 roles and responsibilities. While a Section 106 programmatic agreement is forthcoming, in the interim, the Division should make sure all parties involved in the Section 106 process understand their roles and the consequences for non-compliance. By doing so, the Division has an opportunity to implement best practices for Section 106 oversight and compliance. Not taking action will lead to further confusion, future mistakes, and inadequate oversight by the Division.

Appendix A: Timeline of Events

Initial Project Development

1995

- 1995—AIS

1996

- February 6, 1996—Letter from FHWA Hawaii Division to HDOT re: approval of programmatic Section 4(f)
- May 1, 1996—Final EA
- May 1, 1996—Programmatic Section 4(f)
- June 10, 1996—FONSI (Phases 1 & 2)

1999

- March 5, 1999—Section 106 MOA among ACHP, FHWA Hawaii Division, and SHPD

Re-evaluation

2006

- September 1, 2006—Queen Ka‘ahumanu Highway Widening, Phase 2 begins as a design-build project
- 2006-2007—EA reaffirmation (*See: Appendix D of Section 4(f) document*)

2007

- March 3, 2007—Letter from OHA to FHWA Hawaii Division re: Cultural Impact Assessment
- March 14, 2007—Letter from FHWA Hawaii Division to OHA re: requested changes to the MOA
- December 28, 2007—Queen Ka‘ahumanu Highway Widening, Phase 2 advertised

2008

- 2008—New NHO Makani Hou o Kaloko-Honokōhau established with cultural and lineal descendants from the Kaloko-Honokōhau area
- April 11, 2008—HDOT posted an advertisement in the local newspapers to solicit comments on the EA reaffirmation
- May 7, 2008—Letter from NPS to HDOT re: NPS review of the FONSI for the Queen Ka‘ahumanu Highway Widening, Phase 2, Kealakehe Parkway to Keahole Airport Road
- June 16, 2008—Queen Ka‘ahumanu Highway Widening, Phase 2 bids opened and evaluated
- June 27, 2008—Queen Ka‘ahumanu Highway Widening, Phase 2 awarded to GBI
- July 7, 2008—Bid protest challenging award filed by Kiewit Pacific Co.
- October 2008—Award to GBI rescinded; project re-advertised requesting Best and Final Offers
- November 14, 2008—Best and Final Offer bids opened and evaluated
- December 2008—Queen Ka‘ahumanu Highway Widening, Phase 2 awarded to GBI
- December 24, 2008—Bid protest challenging award filed by Hawaiian Dredging Construction Company

2009

- 2009—Design-build RFP: Special Provisions Proposal Contract and Bond for Queen Ka‘ahumanu Highway Widening, Phase 2 + 3 addendums (HDOT)
- 2009—Phase 1 Completed: Phase 1 extending 2.5 miles between Palani Road and Kealakehe Parkway (Honokōhau Harbor Access Road)
- September 30, 2009—Queen Ka‘ahumanu Highway Widening, Phase 2 rebid is advertised

2010

- 2010—NPS staff and members of Makani Hou o Kaloko-Honokōhau expressed a concern that the original AIS field investigation missed many historic properties fronting the Kaloko-Honokōhau National Historical Park
- March 9, 2010—Rebid of Queen Ka‘ahumanu Highway Widening, Phase 2 proposals opened and evaluated
- April 2010— Queen Ka‘ahumanu Highway Widening, Phase 2 awarded to GBI
- August 2010—Efforts to investigate/confirm NPS allegations that additional historic properties were not identified in the State ROW fronting Kaloko-Honokōhau National Historical Park
- November 2010—Draft Supplemental AIS released for review
- November 2010—Consultation process to amend the existing Section 106 MOA begins
- 2010/2011—Additional property surveys conducted by the AIS consultant firm, staff from NPS, and members of the NHOs

2011

- January 2011—Supplemental AIS and 1995 AIS combined into a single study
- January 10, 2011—Letter from NPS to Cultural Surveys Hawaii re: comments on Draft Supplemental AIS
- March 7, 2011—Letters from HDOT to FHWA Hawaii Division, Department of Land and Natural Resources, Historic Hawaii Foundation, OHA, Hui Malama I Na Kupuna O Hawaii Nei, Na Hoapili Kaloko-Honokōhau, Edith Kanakaole Foundation, Kona Hawaiian Civic Club, and the Kaloko-Honokōhau National Historical Park re: Section 106 Consultation Notification with Supplemental AIS included for comments
- April 11, 2011—Letter from OHA to HDOT re: Section 106 Consultation and Draft Supplemental AIS
- April 21, 2011—Letter from OHA to HDOT re: Section 106 Consultation
- May 2011—After internal revisions, AIS submitted to SHPD for approval
- August 2011—Received information that NHOs interested in being consulted wanted to participate
- October 2011—Initial meeting with NHOs in Kona. NHOs expressed a need to conduct an independent site survey to ensure that no historic properties were missed.
- October 2011—DRPP for North Segment submitted to SHPD for approval
- October 26, 2011—SHPD approval of DRPP
- November 2011—NHOs conduct their independent site survey, attended by representatives from HDOT and FHWA
- November 2011—Revised AIS submitted based on comment received

2012

- January 2012—Site evaluation of discovered sites by NHOs
- February 17 and 29, 2012—Meetings with NHOs
- March 22, 2012—Consultation meeting re: discussion of archaeological findings and significance
- March 23, 2012—Compiled Final Plan Set
- April 18, 2012—Consultation meeting re: discussion of archaeological findings and significance
- May 9, 2012—Adverse Effect Letter issued
- May 14-16, 2012—Consultation meeting re: mitigation recommendations
- May 17, 2012—HDOT sent 30-day letter for AIS review consultation
- May 25, 2012—Consultation meeting

- May 25, 2012—Weekly Briefing to HDOT Administrator
 - Includes that they're looking for cultural monitors; Supplemental AIS has been submitted to all stakeholders; and looking to finalize mitigation measures in order to finalize MOA
- June 1, 2012—Letter from FHWA Hawaii Division to NPS, National Historic Landmarks Program re: finding of adverse effect for the Honokōhau Settlement National Historic Landmark
- June 15, 2012—Consultation meeting re: mitigation recommendations
- July 9, 2012—Initial SHPD review and acceptance of AIS, contingent on comments and concerns from other consulting parties being addressed
- July 19, 2012—AIS identifies 76 sites, 60 of which were not previously identified
- August 2012—Revised AIS sent to SHPD for approval
- August 2, 2012—Consultation meeting re: mitigation recommendations
- August 10, 2012—Letter from NHLC (on behalf of Makani Hou o Kaloko-Honokōhau) to FHWA Hawaii Division re: request for a supplemental environmental assessment and a new Section 4(f) evaluation
- August 21, 2012—Letter from SHPD to CSH re: Acceptance of AIS
- August 24, 2012 – DRPP submitted to SHPD for approval
- August 24, 2012 – AMP submitted to SHPD for approval
- October 2012—Final BTP for SIHP #50-10-27-22415 (CSH)
- October 2012—Final Archaeological DRPP for the Proposed Queen Ka‘ahumanu Highway Widening, Phase 2 Project (CSH)
- October 2012—Final AMP for the Proposed Queen Ka‘ahumanu Highway Widening, Phase 2 (CSH)
- October 1, 2012—Letter from SHPD to CSH re: Acceptance of AMP
- October 24, 2012—Letter from Department of Land and Natural Resources, Historic Preservation Division to CSH re: Acceptance of BTP
- October 25, 2012—Letter from Department of Land and Natural Resources, SHPD to CSH re: Acceptance of DRPP
- December 4, 2012—Section 106 Consultation Meeting

2013

- January 16, 2013—Letter from Makani Hou o Kaloko-Honokōhau to HDOT re: Phase 2 – Proposed Redesign
- February 19, 2013—Letter from FHWA Hawaii Division to SHPD re: Section 4(f) Applicability to Sites
- March 12, 2013—Letter from SHPD to FHWA Hawaii Division re: SHPD Response Letter for Section 4(f) Applicability
- May 15, 2013—Letter from FHWA Hawaii Division to SHPD re: Clarification Regarding Applicability of Section 4(f) to Historic Sites
- September 13, 2013—Weekly Briefing to HDOT Administrator
 - Revised archaeological reports submitted to SHPD by CSH; Final MOA was revised based on comments; Delay in Section 4(f) evaluation after Department of Interior's response letter saying efforts to address impacts were incomplete

2014

- April 9, 2014—Final APMP Addressing 23 Sites for the Proposed Queen Ka‘ahumanu Highway Widening, Phase 2 Project (CSH)
- April 9, 2014—Letter from SHPD to CSH re: APMP Acceptance

- September 16, 2014—HDOT Redesign Resubmittal

2015

- March 17, 2015—Section 106 MOA completely superseded the 1999 MOA
- May 2015—NEPA EA and FONSI Reevaluation
- May 15, 2015—Section 4(f) approval (individual Section 4(f) evaluation for Phase 2)
- May 22, 2015—Start data recovery and fence installation with Cultural Monitors on site (*See: Cultural Monitor Reports*)
- June 25, 2015—Letter from CSH to Department of Land and Natural Resources, SHPD re: End of Fieldwork for Data Recovery
- July 16, 2015—Letter from Department of Land and Natural Resources, SHPD to HDOT and CSH re: Acceptance of End of Fieldwork Letter
- August 11, 2015—Notice to proceed after protective fencing was installed

Breaches Occur

- Estimated before late November 2015—Disturbances to Road to Sea Trail (*See: December 6, 2016 Meeting Notes*)
- Estimated late November 2015—Disturbances to Māmalahoa Trail (*See: December 6, 2016 Meeting Notes*)

HDOT Learns of Breaches

2016

- January 2016—100pct Redesign Drawings
- July 14, 2016—layout of walls incorrect (*See: HDOT's Timeline of Events*)
- July 19, 2016—noted possible impact to Māmalahoa at Kealakehe Parkway and at entrance to Kaloko-Honokōhau National Historical Park (*See: HDOT's Timeline of Events*)
- July 19, 2016—HDOT asked GBI to verify grading limits, site locations, and wall layout in relation to buffer fencing
- July 28, 2016—HDOT notified of possible site encroachment at SIHP #10714 at Features A and C, issued a stop work order, and requested contractors to assess the damaged area (*See: January 5, 2017 document from HDOT to FHWA, Page 1*)
- August 2, 2016—HDOT notified contractor to stop all work at retaining walls C and D (*See: email on page 40 of August 2017, Adverse Effect Notification*)
- August 2, 2016—SHPD notified of possible site 10714 encroachment at Features A and C (*See: August 2017, Adverse Effect Notification, Page 3, email on page 40*)
- August 4, 2016—CSH and GBI verify site locations, but using wrong data
 - Results in field site visits to recalibrate GIS data on sites
- August 6, 2016—Email from HDOT to FHWA Hawaii Division re: no encroachment on archaeological sites
- August 24-25, 2016—HDOT and contractors visited Site 10714 and 36 others – confirmed that Site 10714 and Site 00002 had been damaged by grading, and found other possible breaches to interim buffers on other sites. HDOT requested that contractors further assess these possible breaches. (*See: January 5, 2017 document from HDOT to FHWA, Page 1-2; and August 2017, Adverse Effect Notification, Page 3*)
- August 26, 2016—Email from FHWA Hawaii Division to HDOT re: advice on impacted sites

- August 29, 2016—GBI re-established protective fencing and site boundaries, accompanied by the CMs and a CSH archaeologist (*See: HDOT's Timeline of Events*)
- August 30, 2016—HDOT issued stop work order near Site 00002 (*See: January 5, 2017 document from HDOT to FHWA, Page 2*)
- September 13-19, 2016—HWY-DE verifies protective fencing and site locations, and meets with SHPD and the project team (*See: HDOT's Timeline of Events*)
- September 14, 2016—Email from FHWA Hawaii Division to HDOT re: request for update on damaged archaeological sites
- September 14, 2016—Redesign Resubmittal (*plan sheets are dated August 2016*)
- September 14 and 15, 2016—HDOT conducted second site visit (*See: January 5, 2017 document from HDOT to FHWA, Page 2*)
- September 16, 2016—HDOT conducted site visit with SHPD and Hawaii Island Archaeologist to work on four goals (see document), and confirmed that interim buffer zones of three sites (19947, 28783, and 28811) were breached, but that the sites had not been affected (*See: January 5, 2017 document from HDOT to FHWA, Page 2*)
- September 27, 2016—Letter from HDOT to GBI re: impacts to archaeological sites
- September 30, 2016—Email from HDOT to Consulting Parties re: notification of unanticipated effects on identified historic properties (00002 and 10714)
- October 28, 2016—Email from Makani Hou o Kaloko-Honokōhau to HDOT re: meeting to discuss damage to sites and incomplete MOA requirements/stipulations
- November 2, 2016—Email from HDOT to Makani Hou o Kaloko-Honokōhau re: meeting to discuss damage to sites and Makani Hou o Kaloko-Honokōhau's participation in the MOA stipulations
- November 4, 2016—Email from HDOT to SHPD re: APE limits
- November 14, 2016—Letter from GBI to HDOT re: suspension of work outside the project APE

Follow-up to Breaches

- November 15, 2016—Final Action Plan for Archaeological Monitoring at Queen Ka'ahumanu Highway Widening, Phase 2 (CSH)
- December 2, 2016—Site Visit
- December 6, 2016—Consulting Party Meeting (*See: August 2017, Adverse Effect Notification, Page 41*)
- December 15, 2016—Memorandum from HDOT to SHPD re: concurrence on expansion of APE
- December 16, 2016—Email from HDOT to contractors re: clearance to continue work at disturbed sites and buffer encroachment sites
- December 19, 2016—Email from HDOT to SHPD and FHWA Hawaii Division re: December 16 Section 106 Consulting Parties Meeting and archaeological clearance to proceed with work
- December 19, 2016—SHPD received submittal of Expanded APE from HDOT (*See: January 6, 2017 concurrence letter SHPD to HDOT*)

2017

- January 5, 2017—Letter and report from HDOT to FHWA Hawaii Division re: Queen Ka'ahumanu Highway Widening, Phase 2: Historical Properties Evaluation on Encroached Sites and Buffer Zone Breach during Construction
- January 6, 2017—Letter from SHPD to HDOT re: Chapter 6E and Section 106 Review and SHPD concurrence with the expanded APE
- January 2017—Draft Supplemental AIS completed

- January 9, 2017—Email from CSH to HDOT et al. with revised Supplemental AIS
- February 1, 2017—Email from Makani Hou o Kaloko-Honokōhau to HDOT re: adverse effects to historic trails and buffer breaches
- February 2, 2017—Email from HDOT to Makani Hou o Kaloko-Honokōhau et al re: meeting related to MOA stipulations
- February 7, 2017—Email from FHWA Hawaii Division to ACHP and SHPD to re: assessment report for archaeological sites for review and concurrence, and action plan to address sites during construction
- February 19, 2017—Email from ACHP to FHWA Hawaii Division re: archaeological site assessment, with ACHP not offer concurrence with the conclusion of the report (no adverse effect)
- March 2017—Final Supplemental AIS (CSH)
- March 9, 2017—Letter from Department of Land and Natural Resources, SHPD to HDOT re: Supplemental AIS Acceptance
- April 4, 2017—Final Action Plan by CSH for Archaeological Monitoring at Queen Ka’ahumanu Highway Widening, Phase 2 (*See: August 2017, Adverse Effect Notification, Page 66*)
- April 7, 2017—Section 106 Consulting Parties Meeting re: mitigation for adverse effects (*See: August 2017, Adverse Effect Notification, Page 61*)
- April 8, 2017—Supplemental AIS distributed to signatories and consulting parties of the MOA (*See: August 2017, Adverse Effect Notification, Page 2*)
- April 28, 2017—HDOT notified signatories and consulting parties via email of a site visit to the expanded APE set for 5/5/2017. HDOT asked that any comments on the Supplemental AIS or additional known cultural or historical properties within the expanded APE be submitted to HDOT
- May 5, 2017—Site visit to expanded APE (*See: HDOT’s Timeline of Events*)
- May 19, 2017—HDOT didn’t receive any comments on the Supplemental AIS or additional known or historical properties within the expanded APE (*See: August 2017, Adverse Effect Notification, Page 2*)
- May 23, 2017—Section 106 Consulting Parties Meeting re: mitigation for adverse effects (*See: August 2017, Adverse Effect Notification, Page 97*)
- August 3, 2017—Letter from FHWA to SHPD re: Section 106 Adverse Effect Notification for two damaged sites
- October 2017—Draft ADRR, Volumes 1, 2, and 3 (CSH)

2019

- January 2019—Final BTP Addendum (CSH)
- February 5, 2019—Letter from Department of Land and Natural Resources, SHPD to CSH re: Acceptance of BTP Addendum
- June 11, 2019—“As-Builts” for Design Build
- June 26, 2019—Section 106 Consulting Parties Meeting re: MOA stipulations
- August 13, 2019—Objection to the MOA by Makani Hou o Kaloko-Honokōhau and FHWA Hawaii Division/HDOT Response
- November 23, 2019—Section 106 Consulting Parties Meeting

2020

- February 2020—AMR (GBI)
- February 8, 2020—Section 106 Consulting Parties Meeting
- February 29, 2020—Section 106 Consulting Parties Meeting re: MOA stipulations

- March 11, 2020—Amendment One to the MOA Among the ACHP, FHWA Hawaii Division, and the Hawaii SHPD
- April 4, 2020—Section 106 Consulting Parties Meeting re: MOA stipulations and After-Action Analysis
- April 16, 2020—Section 106 Consulting Parties Meeting re: MOA stipulations
- May 29, 2020—Section 106 Consulting Parties Meeting re: MOA stipulations and After-Action Analysis
- June 3, 2020—Letter from ASM Hawaii to R.M. Towill Corporation re: “Queen Ka’ahumanu Highway Widening, Phase 2 – Archaeological Site Buffer Breaches, SIHP Sites 50-10-27-19947, 28783, and 28811...”
- June 9, 2020—Makani Hou o Kaloko-Honokōhau provided comments on Section 106 MOA stipulations in memo table
- July 8, 2020—FHWA informed the ACHP of the objections from Makani Hou o Kaloko-Honokōhau and requested that the ACHP provide its advisory comments on the dispute
- July 9, 2020—Makani Hou o Kaloko-Honokōhau objection to the ACHP FHWA Liaison on the “closeout” of 2015 MOA stipulations
- August 10, 2020—Letter from ACHP to the FHWA Hawaii Division with responses to Makani Hou o Kaloko-Honokōhau’s concerns
- September 24, 2020—Section 106 Consulting Parties Meeting re: Makani Hou o Kaloko-Honokōhau objections

Appendix B: Documents Reviewed

Documents Reviewed
<i>Relative to the Project</i>
Section 4(f) Documentation:
<ul style="list-style-type: none"> • Programmatic Section 4(f) (May 1996) • FHWA letter to SHPD: Section 4(f) Applicability to Sites (2/19/13) • SHPD Response Letter for Section 4(f) Applicability (3/12/13) • Letter from FHWA to SHPD: Clarification Regarding Applicability of Section 4(f) to Historic Sites (5/15/13) • Section 4(f) Document (5/15/15)
NEPA Documentation
<ul style="list-style-type: none"> • Final EA (May 1996) plus FONSI (Phases 1 and 2) (June 1996) • Queen Ka‘ahumanu Highway Widening re-evaluation (May 2015) • EA Reaffirmation (2006/7)
Section 106 Documentation
<ul style="list-style-type: none"> • 1999 MOA (3/05/99) • SHPD Acceptance Letter of the 2012 AIS (8/21/12) • Executed MOA (3/17/15) • Final MOA (4/16/15) • Memorandum of Understanding Between HDOT and the U of HI (10/01/19) • FHWA and HDOT response to August MOA objections (1/21/20) • Draft Amendment 1 (05/2019, 1/13/20 and final signed) • Draft Amendment 2 (1/23/20)
Expanded APE Reports
<ul style="list-style-type: none"> • HDOT APE Expansion Request Memorandum (12/15/2016) • APE Expansion Request submittal received by SHPD email (12/19/2016) • Draft Supplemental AIS (01/2017) • Email from CSH regarding Draft Supplemental AIS DOT Comments (01/09/2017) • SHPD concurrence with Expanded APE Letter (01/06/2017)
Chapter 6E
<ul style="list-style-type: none"> • ADRR <ul style="list-style-type: none"> ○ Draft Archaeological Data Recovery Report Volume 1 (10/2017) ○ Draft Archaeological Data Recovery Report Volume 2 (10/2017) ○ Draft Archaeological Data Recovery Report (10/2017) • AIS <ul style="list-style-type: none"> ○ Queen Ka‘ahumanu Highway Widening, Phase 2 Final AIS (7/19/2012) ○ Queen Ka‘ahumanu Highway Widening, Phase 2 AIS Acceptance Letter (8/21/2012) • AMP <ul style="list-style-type: none"> ○ Queen Ka‘ahumanu Highway Widening, Phase 2 Archaeological Monitoring Plan Final (10/12) ○ Queen Ka‘ahumanu Highway Widening, Phase 2 Archaeological Monitoring Plan Acceptance Letter (10/12)

Documents Reviewed
<i>Relative to the Project</i>
<ul style="list-style-type: none"> • AMR <ul style="list-style-type: none"> ○ Archaeological Monitoring Report Draft (2/2020) • APMP <ul style="list-style-type: none"> ○ Queen Ka‘ahumanu Highway Widening, Phase 2 Final Archaeological Preservation and Mitigation Plan Addressing 23 Sites (4/2014) ○ Queen Ka‘ahumanu Highway Widening, Phase 2 Final An Archaeological Preservation and Mitigation Plan Addressing 23 Site Acceptance Letter (4/9/2014) • BTP <ul style="list-style-type: none"> ○ Final Burial Treatment Plan (10/2012) ○ Final Burial Treatment Plan Acceptance Letter (10/2012) ○ Burial Treatment Plan Addendum Final (01/2019) ○ Burial Treatment Plan Addendum Final Acceptance Letter (02/2019) • DRPP <ul style="list-style-type: none"> ○ Final Archaeological Data Recovery and Preservation Plan (10/2012) ○ Final Archaeological Data Recovery and Preservation Plan Acceptance Letter (10/2012) ○ DRPP End of Fieldwork Letter (6/2015) ○ DRPP End of Fieldwork Letter Acceptance Letter (7/2015) • Supplemental AIS <ul style="list-style-type: none"> ○ Supplemental AIS Final (03/2017) ○ Supplemental AIS Final Acceptance Letter (3/9/2017)
Design-Build Contract & Plans
<ul style="list-style-type: none"> • Design-Build RFP (FY 2009) • RFP Addendum 1 (10/7/2009) • RFP Addendum 2 (10/26/2009) • RFP Addendum 3 (1/20/2010) • Compiled Final Plan Set (3/23/2012) • 100pct Redesign Drawings (5/20/2012) • Redesign Resubmittal (8/2016) • Action Plan between HDOT and contractors (4/04/17) • “As-Builts” for Design Build (6/11/2019)
Daily Diaries & Cultural Monitor Weekly Reports
<ul style="list-style-type: none"> • Cultural Monitor Weekly Reports <ul style="list-style-type: none"> ○ 2015 <ul style="list-style-type: none"> ▪ Data recovery and fencing set-up (Week ending 5/29/15 to week ending 6/19/15) ▪ Start of construction (Week ending 9/04/15 to week ending 12/30/15) ○ 2016 ○ 2017 ○ 2018 • Archaeological Monitoring Reports
Correspondence:
<ul style="list-style-type: none"> • Email chain regarding MOA Amendment 1 consulting parties meeting (11/03/19)

Documents Reviewed
<i>Relative to the Project</i>
Meeting Notes:
<ul style="list-style-type: none"> • December 4, 2012 Section 106 Consultation Meeting notes • December 6, 2016 MOA meeting • April 7, 2017 MOA meeting
Breach Documentation:
<ul style="list-style-type: none"> • Email Stop order from HDOT to contractor (8/2/2016) • Email notification of breaches to SHPD from HDOT (8/2/2016) • HDOT Letter to Contractor Breached Sites (9/27/2016) • Email notification of breaches to FHWA and NHOs (9/30/2016) • GBI Letter to HDOT regarding suspension of work (11/14/2016) • Final Archaeological Action Plan (11/15/2016) • Historical Properties Evaluation on Encroached Sites and Buffer Zone Breach During Construction (1/05/17) • FHWA formal notification to SHPD of breaches (8/03/17) • Adverse Effect Notification from FHWA to ACHP (08/03/17) • ASM Letter Report on Breaches to the Archaeological Buffers (6/3/2020) • Excel table with breach information • Breach-related emails <ul style="list-style-type: none"> ○ Email notification of Breaches to 106 MOA parties
Other Documentation:
<ul style="list-style-type: none"> • Attachment 1: Table with Project Information by Stipulation (1/23/2020) • HDOT Timeline of Events • Assorted Consultation Letters (all 2011) • Evaluation of mitigation proposals (7/31/2012) • NPS comments on Draft Supplemental AIS (2011) • Weekly Briefing to Administrator <ul style="list-style-type: none"> ○ Week ending 12/10/10 ○ Week ending 5/25/12 ○ Week ending 9/13/13 • Comment Letter from Makani Hou o Kaloko-Honokōhau on Redesign (11/18/2013) • Finding of Adverse Effect Letter from FHWA to the Secretary of the Interior (6/1/2012) • MOA Related Letters (3/2007) • Attachment 2: List of Trails and Amount Graded • HDOT request for Assistance on After-Action Analysis (Part 1 - Cover Letter to FHWA Hawaii Division) • HDOT request for Assistance on After-Action Analysis (Part 3 - Purpose, Goal, and Scope) • Mitigation Google Earth Link • Consultation Timeline • Project Timeline

<i>Relative to the Program</i>
Overall Environmental Program
<ul style="list-style-type: none"> • Hawaii Environmental Program Review Report • HDOT Environmental Permitting Guideline Manual (Select Chapters) • Environmental Section from the Project Development Manual • Stewardship and Oversight Agreement (4/30/15)
Section 106 Program
<ul style="list-style-type: none"> • FHWA and HDOT Relationship Building Workshop Summary Report • Hawaii Gap Analysis
Delegation of Consultation
<ul style="list-style-type: none"> • Section 106 Authorization of Consultation Letter (4/08/16)

Appendix C: Project Participants

	Agency/Organization Name
Federal Agencies	Federal Highway Administration Hawaii Division
	Advisory Council on Historic Preservation
State Agencies	Hawaii Department of Transportation
	Office of Hawaiian Affairs
	Hawaiian State Historic Preservation Division
Contractors and Sub-Contractors	R.M. Towill Corporation
	Goodfellow Bros, Inc.
	Cultural Surveys Hawaii
	Cultural Monitors (including from the Kona Hawaiian Civic Club and West Hawaiian Civic Center)
Other Section 106 Consulting Parties	Historic Hawaii Foundation
	Makani Hou o Kaloko-Honokōhau
	National Park Service (Interior Region 12 – Pacific Islands, Kaloko-Honokōhau National Historical Park, and Ala Kahakai National Historic Trail)
	Native Hawaiian Legal Corporation

Appendix D: Interviews

Interviewee Agency/Organization	Interview Date	Interview Team
FHWA Hawaii Division	October 6, 2020	ACHP, FHWA, Makani Hou o Kaloko-Honokōhau, NHLC, OHA, Volpe Center
	November 16, 2020	ACHP, FHWA, Makani Hou o Kaloko-Honokōhau, NHLC, OHA, Volpe Center
FHWA Resource Center	October 15, 2020 ¹⁷	ACHP, FHWA, Makani Hou o Kaloko-Honokōhau, NHLC, Volpe Center
Hawaii Department of Transportation ¹⁸	October 16, 2020	ACHP, FHWA, Makani Hou o Kaloko-Honokōhau, NHLC, OHA, Volpe Center
	October 19, 2020	ACHP, FHWA, Makani Hou o Kaloko-Honokōhau, NHLC, Volpe Center
Hawaiian State Historic Preservation Division	October 27, 2020	ACHP, FHWA, Makani Hou o Kaloko-Honokōhau, NHLC, OHA, Volpe Center
Advisory Council on Historic Preservation	October 29, 2020	ACHP, FHWA, Makani Hou o Kaloko-Honokōhau, NHLC, OHA, Volpe Center
Makani Hou o Kaloko-Honokōhau ¹⁹	November 2, 2020	ACHP, FHWA, NHLC, OHA, Volpe Center
Office of Hawaiian Affairs	November 6, 2020	ACHP, FHWA, HDOT, Makani Hou o Kaloko-Honokōhau, NHLC, Volpe Center
Historic Hawaii Foundation	November 12, 2020	ACHP, FHWA, HDOT, Makani Hou o Kaloko-Honokōhau, NHLC, Volpe Center
Cultural Monitor Representatives (Kona Hawaiian Civic Club and West Hawaiian Civic Center)	November 18, 2020	ACHP, FHWA, HDOT, Makani Hou o Kaloko-Honokōhau, NHLC, OHA
Cultural Surveys Hawaii	November 20, 2020	ACHP, FHWA, HDOT, Makani Hou o Kaloko-Honokōhau, NHLC, OHA, Volpe Center
National Park Service (Interior Region 12 – Pacific Islands, Kaloko-Honokōhau National Historical Park, and Ala Kahakai National Historic Trail)	<i>Representatives from the NPS declined to participate in an interview. The NPS provided written feedback in the form of a letter, without direct responses to the interview questions.</i>	

¹⁷ The FHWA Office of Project Development and Environmental Review facilitated this interview.

¹⁸ Four interviews with five HDOT representatives were initially intended; however, only two interviews were held. Three of the five representatives declined to participate in an interview. Two provided written feedback to the interview questions, and the third declined to provide written feedback. The FHWA Office of Project Development and Environmental Review facilitated the interview held on October 19, 2020.

¹⁹ The FHWA Office of Project Development and Environmental Review facilitated this interview.

Appendix E: Interview Questions

Federal Highway Administration (FHWA) Hawaii Division

1. What is your current role in the agency/organization?
2. How do you communicate with consulting parties and at what points in the project-development and delivery process did you engage them?
 - a. *Potential follow-up question*
 - i. What are your procedures for engaging consulting parties when design changes were made to a project?
3. How does the contracting mechanism generally work for a design/build project relative to the various aspects of project delivery?
4. How do you generally provide oversight on ensuring that archaeological resources identified in the survey information were identified and avoided during construction?
 - a. *The southern section of Phase Two between Kealakehe Parkway and Hina Lani Street was redesigned by narrowing the center median and shifting new travel lanes further east to minimize impacts to historic properties. Do you have any insights as to why the request to narrow the northern median to minimize impacts to historic properties was rejected?*²⁰
5. Talk about the process for carrying environmental, Section 106 and 6E design/scope changes and mitigation commitments through from planning to contracting, and design through construction.
 - a. *Potential follow-up questions*
 - i. How do you hold the contractor accountable for design/scope changes, mitigation commitments, and Section 106/6E compliance?
 - ii. What checkpoints are built into the process for verifying that design/scope and mitigation commitments were being met?
 - iii. What checkpoints are in place to verify that resources were identified correctly and that the correct data/GPS coordinates are being used?
6. When monitoring commitments were made...
 - a. Who is responsible for the hiring and training of the cultural monitors?
 - b. How do you ensure that the monitoring commitments were being honored?
 - c. How are questions or concerns raised by the cultural monitors handled?
7. What are your protocols for notifying other agencies and the consulting parties of adverse effects?
8. Proposed: The attached Action Plan identifies protocols for on-site archaeological monitoring that could be applied to future projects.
 - a. Which parts of this plan do you think are most beneficial?
 - b. Are there any changes or additions to this document that you would propose to help inform recommendations made by the After-Action Analysis?
9. Based on your experience, what other process improvements related to Section 106 and 6E would you recommend to future project sponsors or others involved in project-delivery?
10. Is there anything else that you would like to share?

²⁰ The After-Action Analysis team only asked Question #4a during the second interview with the FHWA Hawaii Division on November 16, 2020.

Federal Highway Administration (FHWA) Resource Center

1. What was your role in the agency/organization?
2. How did you communicate with consulting parties and at what points in the project-development and delivery process do you engage them?
 - a. *Potential follow-up question*
 - i. What are your procedures for engaging consulting parties when design changes are made to a project?
3. In Hawaii, how does the contracting mechanism generally work for a design/build project relative to the various aspects of project delivery?
4. How did you generally provide oversight on ensuring that archaeological resources identified in the survey information are identified and avoided during construction?
5. Talk about the process for carrying environmental, Section 106 and 6E design/scope changes and mitigation commitments through from planning to contracting, and design through construction.
 - a. *Potential follow-up questions*
 - i. How did you hold the contractor accountable for design/scope changes, mitigation commitments, and Section 106/6E compliance?
 - ii. What checkpoints were built into the process for verifying that design/scope and mitigation commitments are being met?
 - iii. What checkpoints were in place to verify that resources are identified correctly and that the correct data/GPS coordinates are being used?
6. When monitoring commitments were made...
 - a. Who was responsible for the hiring and training of the cultural monitors?
 - b. How did you ensure that the monitoring commitments are being honored?
 - c. How were questions or concerns raised by the cultural monitors handled?
7. What are your protocols for notifying other agencies and the consulting parties of adverse effects?
8. Proposed: The attached Action Plan identifies protocols for on-site archaeological monitoring that could be applied to future projects.
 - a. Which parts of this plan do you think are most beneficial?
 - b. Are there any changes or additions to this document that you would propose to help inform recommendations made by the After-Action Analysis?
9. Based on your experience, what other process improvements related to Section 106 and 6E would you recommend to future project sponsors or others involved in project-delivery?
10. Is there anything else that you would like to share?

Hawaii Department of Transportation (HDOT)

1. What is your current role in the agency/organization?
2. How do you communicate with consulting parties and at what points in the project-development and delivery process do you engage them?
 - a. *Potential follow-up question*
 - i. What are your procedures for engaging consulting parties when design changes are made to a project?
3. How does the contracting mechanism generally work for a design/build project relative to the various aspects of project delivery?
4. How are you ensuring that archaeological resources identified in the survey information are identified and avoided during construction?
5. Talk about the process for carrying environmental, Section 106 and 6E design/scope changes and mitigation commitments through from planning to contracting, and design through construction.
 - a. *Potential follow-up questions*
 - i. How do you hold the contractor accountable for design/scope changes, mitigation commitments, and Section 106/6E compliance?
 - ii. What checkpoints are built into the process for verifying that design/scope and mitigation commitments are being met?
 - iii. What checkpoints are in place to verify that resources are identified correctly and that the correct data/GPS coordinates are being used?
6. When monitoring commitments are made...
 - a. Who is responsible for the hiring and training of the cultural monitors?
 - b. How do you ensure that the monitoring commitments are being honored?
 - c. How are questions or concerns raised by the cultural monitors handled?
7. What are your protocols for notifying other agencies and the consulting parties of adverse effects?
8. Proposed: The attached Action Plan identifies protocols for on-site archaeological monitoring that could be applied to future projects.
 - a. Which parts of this plan do you think are most beneficial?
 - b. Are there any changes or additions to this document that you would propose to help inform recommendations made by the After-Action Analysis?
9. Based on your experience, what other process improvements related to Section 106 and 6E would you recommend to future project sponsors or others involved in project-delivery?
10. Is there anything else that you would like to share?

State Historic Preservation Division (SHPD)

1. What is your current role in the agency/organization?
2. What was your individual role and your agency's role in the project?
3. Please explain the difference between the 6E and the Section 106 process.
4. What was your agency's experience with the Section 106 process for the Queen K project, and do you have any recommendations for improving the process?
5. What was your agency's experience with the 6E process, and do you have any recommendations for improving the process?
6. What was your experience with the Section 4(f) process, and do you have any recommendations for improving the process?
7. The attached Action Plan identifies protocols for on-site archaeological monitoring that could be applied to future projects.
 - a. Which parts of this plan do you think are most beneficial?
 - b. Are there any changes or additions to this document that you would propose to help inform recommendations made by the After-Action Analysis?
8. What are hoping to achieve from this after-action analysis report for both the Queen K project and future projects?
9. Is there anything else that you would like to share?

Advisory Council on Historic Preservation (ACHP)

1. What was your role in the agency/organization?
2. Did you have a role as a part of the project, outside of the Section 106 process, and, if so, what was it?
3. What was your experience with the Section 106 process, and do you have any recommendations for improving the process?
 - a. *Potential follow-up questions*
 - i. Involvement in the 2015 MOA?
 - ii. Identification and classification of cultural and historic resources?
 - iii. Post-damage communication?
4. What are you hoping to achieve from this after-action report for both the Queen K project and future projects?
5. In your opinion, at what point(s) in the process, do you believe a breakdown occurred (whether during construction or leading up to/after construction)?
6. Can you speak to the historical, cultural and spiritual significance of the resources that were adversely affected?
7. For future transportation projects, do you have recommendations for how the process can better account for and incorporate the historical, cultural and spiritual significance of the resources within a project area?
8. The attached Action Plan identifies protocols for on-site archaeological monitoring that could be applied to future projects.
 - a. Which parts of this plan do you think are most beneficial?
 - b. Are there any changes or additions to this document that you would propose to help inform recommendations made by the After-Action Analysis?
9. Is there anything else that you would like to share?

Makani Hou o Kaloko-Honokōhau

1. What is your current role in the agency/organization?
2. Could you talk about the role you played during the life of the Queen K project?
 - a. *Potential follow-up questions about activities and observations in that role*
 - i. *How did Makani Hou o Kaloko-Honokōhau become aware of this project and involved in the Section 106 process?*
 - ii. *Do you have anything to share about your involvement with the Archaeological Inventory Survey?*
3. Can you speak to the historical, cultural and spiritual significance of the resources that were adversely affected?
4. In your opinion, at what point(s) in the process, do you believe a breakdown occurred (whether during construction or leading up to/after construction)?
5. What was your experience with the Section 106 process and the approach for communication and coordination with consulting parties?
6. For future transportation projects, do you have recommendations for how the process can better account for and incorporate the historical, cultural and spiritual significance of the resources within a project area?
 - a. *Potential follow-up question*
 - i. *Are there considerations that should be kept in mind for consistency of messaging to consulting parties during staff turnover in the agencies?*
7. The attached Action Plan identifies protocols for on-site archaeological monitoring that could be applied to future projects.
 - a. Which parts of this plan do you think are most beneficial?
 - b. Are there any changes or additions to this document that you would propose to help inform recommendations made by the After-Action Analysis?
8. What are you hoping to achieve from this after-action report for both the Queen K project and future projects?
9. Is there anything else that you would like to share?

Office of Hawaiian Affairs (OHA)

1. What is your current role in the agency/organization?
2. Did you have a role as a part of the project, outside of the Section 106 process, and, if so, what was it?
3. What was your experience with the Section 106 process and do you have any recommendations for improving the process?
4. What are you hoping to achieve from this after-action report for both the Queen K project and future projects?
5. In your opinion, at what point(s) in the process, do you believe a breakdown occurred (whether during construction or leading up to/after construction)?
6. Can you speak to the historical, cultural and spiritual significance of the resources that were adversely affected?
7. For future transportation projects, do you have recommendations for how the process can better account for and incorporate the historical, cultural and spiritual significance of the resources within a project area?
8. The attached Action Plan identifies protocols for on-site archaeological monitoring that could be applied to future projects.
 - a. Which parts of this plan do you think are most beneficial?
 - b. Are there any changes or additions to this document that you would propose to help inform recommendations made by the After-Action Analysis?
9. Is there anything else that you would like to share?

Historic Hawaii Foundation (HHF)

1. What is your current role in the agency/organization?
2. Did you have a role as a part of the project, outside of the Section 106 process, and, if so, what was it?
3. What was your experience with the Section 106 process and do you have any recommendations for improving the process?
4. What are you hoping to achieve from this after-action report for both the Queen K project and future projects?
5. In your opinion, at what point(s) in the process, do you believe a breakdown occurred (whether during construction or leading up to/after construction)?
6. Can you speak to the historical, cultural and spiritual significance of the resources that were adversely affected?
7. For future transportation projects, do you have recommendations for how the process can better account for and incorporate the historical, cultural and spiritual significance of the resources within a project area?
8. The attached Action Plan identifies protocols for on-site archaeological monitoring that could be applied to future projects.
 - a. Which parts of this plan do you think are most beneficial?
 - b. Are there any changes or additions to this document that you would propose to help inform recommendations made by the After-Action Analysis?
9. Is there anything else that you would like to share?

Cultural Monitor Representatives (Kona Hawaiian Civic Club and West Hawaiian Civic Center)

1. What is your current role in the agency/organization?
2. Please describe your role and involvement with cultural monitoring for the Queen K project.
 - a. *Potential follow-up questions about activities and observations in that role*
 - i. *How were cultural monitors hired?*
 - ii. *What were the responsibilities of cultural monitors?*
 - iii. *Who did cultural monitors submit cultural monitoring reports to?*
 - iv. *Please describe your experience with and/or knowledge of the pre-construction data-recovery and mitigation process.*
 - v. *Please describe your day-to-day experience as a cultural monitor during construction.*
 - vi. *Please describe the communication protocols that were in place during cultural monitoring.*
 - vii. *How were the project-level mitigation commitments communicated to you?*
 - viii. *Please share what you know in regards to who was in charge of installing the buffer fencing around historic properties, and who was responsible for ensuring buffer fencing was properly installed.*
3. What was your experience with the Section 106 and Chapter 6E processes and do you have any recommendations for improving the processes?
4. What are you hoping to achieve from this after-action report for both the Queen K project and future projects?
5. In your opinion, at what point(s) in the process, do you believe a breakdown occurred (whether during construction or leading up to/after construction)?
6. Please speak to the historical, cultural and spiritual significance of the resources that were adversely affected.
7. For future transportation projects, do you have recommendations for how the process can better account for and incorporate the historical, cultural and spiritual significance of the resources within a project area?
8. The attached Action Plan identifies protocols for on-site archaeological monitoring that could be applied to future projects.
 - a. Which parts of this plan do you think are most beneficial?
 - b. Are there any changes or additions to this document that you would propose to help inform recommendations made by the After-Action Analysis?
9. Is there anything else that you would like to share?

Cultural Surveys Hawaii (CSH)

1. What is your current role in the agency/organization?
2. Please describe your role in the Queen K project.
 - a. *Potential follow-up questions about activities and observations in that role*
 - i. *Please describe your involvement with the archaeological inventory surveys.*
 - ii. *Please describe your involvement with the various data recovery and mitigation plans.*
 - iii. *Please describe your role in the pre-construction data-recovery and mitigation process.*
 - iv. *Please describe your day-to-day role in cultural and archaeological monitoring during construction.*
 1. *Who was responsible for identifying locations for buffer fencing installation, and how was the location identification process conducted?*
 2. *Were archaeological monitors responsible for installing the buffer fencing?*
 3. *After the buffer fencing was installed, who was responsible for verifying that buffer fencing was installed in the proper locations?*
 - v. *Please describe the communication protocols that were in place during archaeological monitoring.*
3. What are you hoping to achieve from this after-action report for both the Queen K project and future projects?
4. In your opinion, at what point(s) in the process, do you believe a breakdown occurred (whether during construction or leading up to/after construction)?
 - a. *Potential follow-up questions*
 - i. *Were any efforts made to re-verify that buffer fences remained in their properly installed locations prior to construction activities in the vicinity of buffer fencing?*
 - ii. *After buffer fencing was installed, was any buffer fencing relocated?*
 - iii. *Please share your thoughts on how some buffer fencing was installed in the wrong locations.*
5. Please speak to the historical, cultural and spiritual significance of the resources that were adversely affected.
6. For future transportation projects, do you have recommendations for how the process can better account for and incorporate the historical, cultural and spiritual significance of the resources within a project area?
7. The attached Action Plan identifies protocols for on-site archaeological monitoring that could be applied to future projects.
 - a. Which parts of this plan do you think are most beneficial?
 - b. Are there any changes or additions to this document that you would propose to help inform recommendations made by the After-Action Analysis?
8. Is there anything else that you would like to share?

National Park Service (Interior Region 12 – Pacific Islands, Kaloko-Honokōhau National Historical Park, and Ala Kahakai National Historic Trail)

1. What is your current role in the agency/organization?
2. Could you talk about the role that you and your park unit/division within NPS played during the life of the Queen K project?
 - a. *Potential follow-up question about activities and observations in that role*
 - i. *Can you describe the NPS involvement with the Archaeological Inventory Survey?*
3. What was your experience with the Section 106 process, and do you have any recommendations for improving this process?
4. What was your experience with the Section 4(f) process, and do you have any recommendations for improving this process?
5. Can you speak to the historical, cultural and spiritual significance of the resources that were adversely affected?
6. In your opinion, at what point(s) in the process, do you believe a breakdown occurred (whether during construction or leading up to/after construction)?
7. For future transportation projects, do you have recommendations for how the process can better account for and incorporate the historical, cultural and spiritual significance of the resources within a project area?
8. The attached Action Plan identifies protocols for on-site archaeological monitoring that could be applied to future projects.
 - a. Which parts of this plan do you think are most beneficial?
 - b. Are there any changes or additions to this document that you would propose to help inform recommendations made by the After-Action Analysis?
9. What are you hoping to achieve from this after-action report for both the Queen K project and future projects?
10. Is there anything else that you would like to share?

Appendix F: Feedback Provided on After-Action Analysis

This Appendix F will append responses provided by the FHWA Hawaii Division, HDOT, and the Section 106 consulting parties on this After-Action Analysis.