An Archaeological Monitoring Plan for the Proposed Modifications to the Wailua River Bridge and Wailua Plantation Bridge

TMKs: (4) 3-9-002:021, 030 and 999; (4) 3-9-004:006; (4) 3-9-006:012, 029, and 999; (4) 4-1-004:001, 005, 006, 007, 008, 020, and 999

Wailua Ahupua'a
Puna District
Island of Kaua'i

DRAFT VERSION

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November 2020

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ASM Project Number 35720.00

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1. INTRODUCTION

At the request of WSP, on behalf of the State of Hawai‘i Department of Transportation (HDOT), ASM Affiliates (ASM) has prepared this archaeological monitoring plan for proposed modifications to the Wailua River Bridge and Wailua Plantation Bridge, Wailua Ahupua‘a, Puna District, Island of Kaua‘i (Figures 1, 2, and 3). This archaeological monitoring plan has been prepared in compliance with the Department of Land and Natural Resources-State Historic Preservation Division’s (DLNR-SHPD) Rules Governing Standards for Archaeological Monitoring Studies and Reports as contained in Hawai‘i Administrative Rules (HAR) 13§13-279. As the bridge improvements are being conducted with aid of monies from the Federal Highway Administration (FHWA), this plan has also been prepared in compliance with commitments made during the National Historic Preservation Act (NHPA) Section 106 process, and any additional work that is performed during the monitoring project will be consistent with the *Secretary of the Interior’s Standards and Guidelines for Archaeological Documentation* (48 FR 44734-370). A description of the proposed Undertaking and the Area of Potential Effects (APE) is presented below, followed by a summary of known historic properties, prior archaeological studies, and anticipated archaeological remains in the vicinity of the proposed project, and an outline of the procedures to be followed and implemented during the archaeological monitoring and subsequent reporting effort.

PROPOSED UNDERTAKING

HDOT, in cooperation with the Federal Highway Administration (FHWA), is planning to undertake repairs to Wailua River Bridge (and the adjacent Wailua Plantation Bridge) located on Kūhiō Highway. Heavy rains and flooding in 2018, and again in 2020, caused large debris to sweep through Wailua River, and repeatedly scour Wailua River Bridge and Wailua Plantation Bridge. The scour events resulted in exposed timber piles, and partial exposure of bridge foundations for the 1945 Wailua River Bridge, which has already surpassed its intended 50-year design life. The most recent event from March 27-28, 2020, highlighted these vulnerabilities and the need to prevent both sudden and gradual failure of the bridge’s substructure as debris material from the current event was observed below the footings and in between the timber piles. HDOT proposes to extend the life of the bridge and avoid full bridge replacement by replacing the substructure (piers and footings). This will be accomplished by installing two drilled shafts at each existing pier. The existing bridge deck will then be lifted and a beam will be placed above the drilled shafts and under the bridge deck to support the deck. The superstructure or deck will remain intact, while new piers are constructed. Also included in the proposed project is replacing the grouted rubble paving near the bridge abutments, repairing large spalls and cracks in the reinforced concrete members, and adding a curb ramp and upgrading 1 of the 4 guardrail transitions that abut the bridge on the northwest side of the bridge.

In consideration of the dynamic field conditions of this project location, the contractor may elect to install a temporary trestle bridge adjacent and parallel to the Wailua River Bridge on both sides of the existing bridge structure, or the contractor may elect to use a floating platform to facilitate the project’s construction. The trestle bridge would consist of three rows of 30-inch diameter pipe piles spaced at 15 feet on center, parallel to the existing bridge, in a checkerboard configuration. Depending on field conditions, this temporary trestle bridge could be used to support the drill rig while installing the permanent drilled shafts. The exact dimensions and materials of the floating platform are unknown; however, in consideration of field conditions this may be an option for the contractor.

In addition to the repairs at Wailua River Bridge, HDOT intends to intermittently employ the use of a floating catchment system to protect the bridge from large timber and other floating debris. This best management practice (BMP) device would consist of a floating buoyed net·with permanent anchors on both sides of the Wailua River that would stretch across the river to a depth of four feet below the surface of the river on the *mauka* side of Wailua River Bridge. The BMP would be placed on an as-needed basis, primarily during storm events, and would be removed after any such event has passed and/or at the end of the workday. HDOT also proposes to implement scour countermeasures at Wailua Plantation Bridge. Countermeasures involve placing grout bags around certain piers, filling the gaps at the grout bags with sand, and placing grouted rubble paving near the bridge abutments to prevent the material from migrating

Figure 1. Project area location.

Figure 2. Area of Potential Effect (" project area").

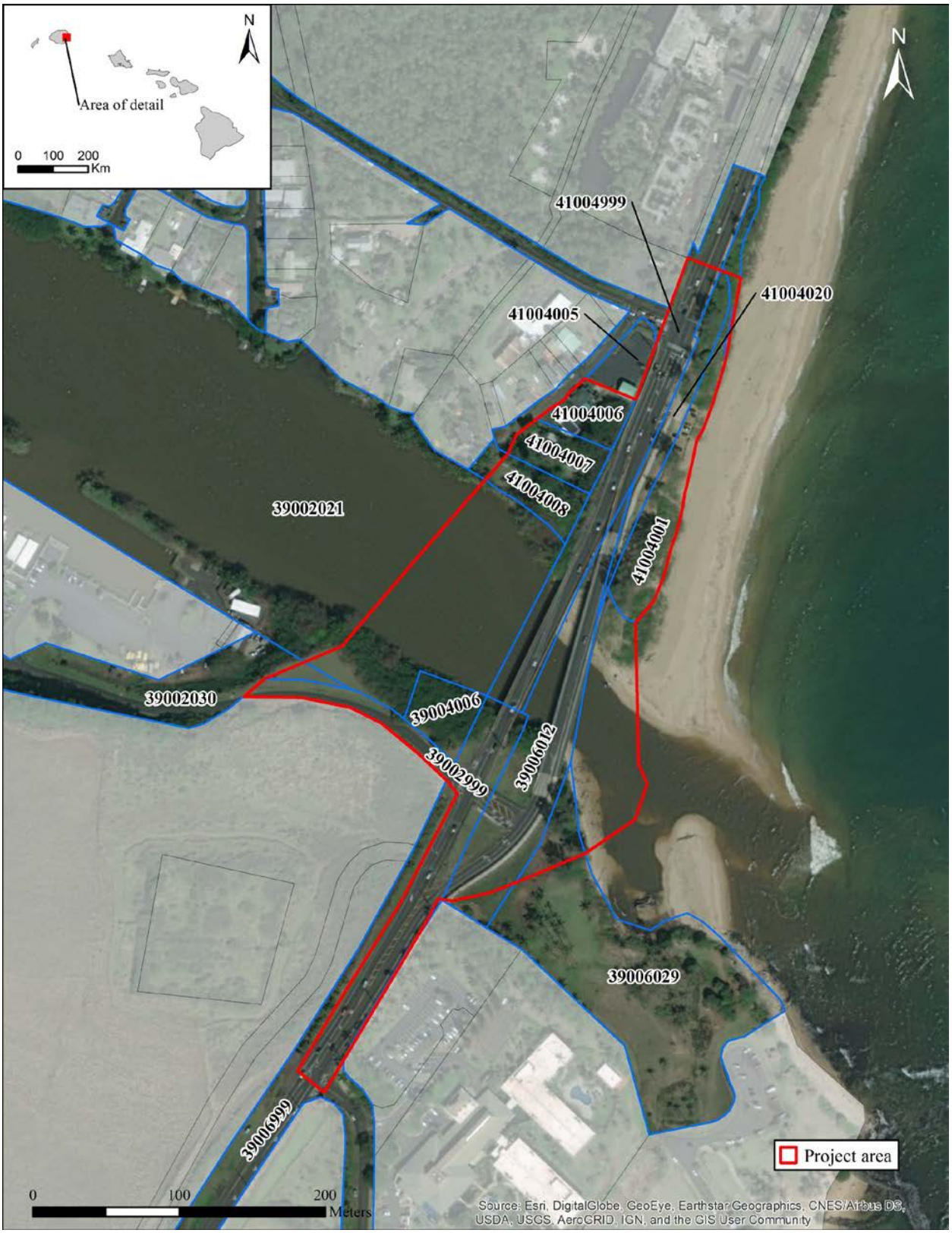

Figure 3. TMK parcels included in the APE.

AREA OF POTENTIAL EFFECT (APE)

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) and Title 36 of the Code of Federal Regulations (CFR), Section 800.2(c)(4), the FHWA and the HDOT have received concurrence from the State Historic Preservation Officer (SHPO) regarding the APE for the subject project (Appendix A). The APE for this project consists of a 0.7-mile long section of Kūhiō Highway between North Leho Drive and Kuamoʻo Road that spans the mouth of the Wailua River and includes both the Wailua River Bridge and the Wailua Plantation Bridge, as well as portions of Tax Map Key (TMK) parcels (proposed access to work areas) located on both sides of the highway, and a contractor staging area along the Wailua Marina Access Road (see Figure 2). This irregularly shaped, roughly 7.4-acre area includes portions of TMKs: (4) 3-9-002:021, 30, (4) 3-9-004:006, (4) 3-9-006:012, 029, (4) 4-1-004:001, 005, 006, 007, 008, 020, as well as portions of the Kūhiō Highway right-of-way (TMKs: (4) 3-9-006: 999 and (4) 4-1-004: 999) on both sides of the river (see Figure 3). All but two of the parcels included within the APE (TMKs: (4) 4-1-004:001, 006 and 007) are owned by the State of Hawaiʻi.

The APE is situated along the coastal plain on the eastern side of Kauaʻi Island near the town of Kapaʻa, at elevations ranging from sea level to approximately 40 feet above sea level. This area receives an average annual rainfall of approximately 46 inches (1,180 millimeters) and has a mean annual temperature of 74 degrees Fahrenheit (Giambelluca et al. 2014). Soils within the APE (Figure 4) are classified as Lihue silty clay and Koloa stony silty clay to the south of the Wailua River, and as Mokuleia fine sandy loam to the north of the river (Soil Survey Staff 2020). Areas at the seaward margins of the APE, on both sides of the river, are classified as Beaches. While the more inland silty clay and sandy loam soils may have formerly been used for agricultural, the sandy coastal areas were typically the locations of fishing settlements and were also used as a location for human burials (Dega and Powell 2010).

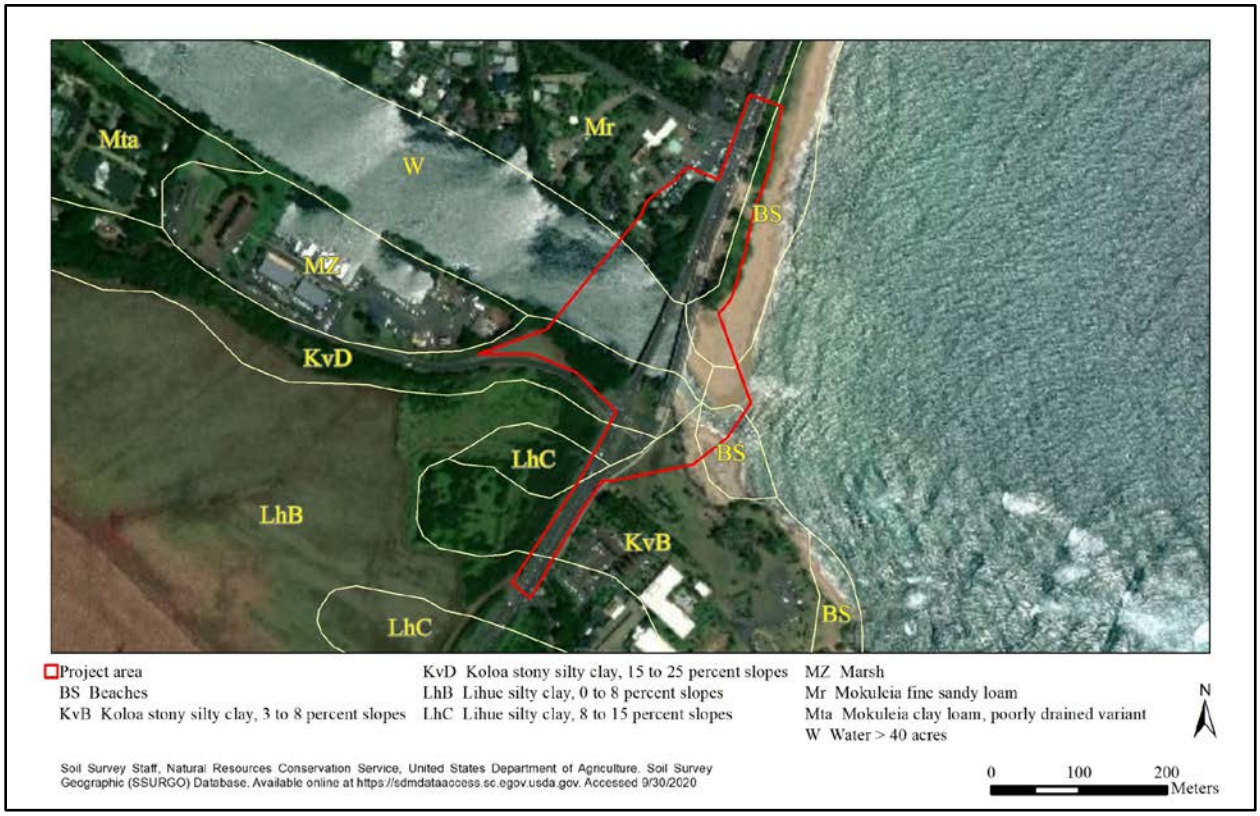

Figure 4. Soils in the vicinity of the project area.

2. HISTORIC PROPERTIES AND ANTICIPATED ARCHAEOLOGICAL REMAINS

The Wailua River, and Wailua Ahupuaʻa in general, was an area of great importance in Precontact times (Flores 1995). The river was the center of business and governance used by high chiefs and chiefesses of Kauaʻi. Though not located within the APE for the proposed project itself, the *ahupuaʻa* contains numerous significant cultural sites and archaeological deposits, many of which are situated at the coast near the mouth of the Wailua River, including *heiau*, fishponds, a *puʻuhonua* (place of refuge), petroglyphs, caves, burial areas, and Historic Period structures and bridges. The known historic properties in the vicinity of the APE are summarized below, followed by a discussion of potential historic properties and anticipated archaeological remains that may be encountered within the APE (Figure 5).

KNOWN HISTORIC PROPERTIES IN THE VICINITY OF THE APE

Historic properties previously documented in the general vicinity of the APE include three *heiau* (Mālae Heiau, Hīkinaʻakalā Heiau, and Kalaeokamanu Heiau), the Royal Birth Site at Holoholokū, the *puʻuhonua* of Hauola, and petroglyphs that are part of the Wailua Complex of Heiau, as well as a Historic rice mill (see Figure 5). While these Historic properties are not located within the APE, and will not be impacted by the currently proposed project, they are briefly described here in order to provide context regarding the religious and social significance of Wailua Ahupuaʻa, and particularly the area at the mouth of the Wailua River, to the history and culture of the Island of Kauaʻi and the State of Hawaiʻi as a whole.

The Wailua Complex of Heiau (Site 50-30-08-502)

The Wailua Complex of Heiau (Site 50-30-08-502) consists of five discontinuous historic properties that were designated a National Historic Landmark in 1962. This complex includes Poliahu Heiau, Hikinaʻakalā Heiau (inclusive of Puʻuhonua o Hauola and associated petroglyphs), Kalaeokamanu Heiau, and Mālae Heiau, as well as the royal birth site at Holoholokū and the bellstone. Three of the *heiau* within the Wailua Complex of Heiau (Mālae Heiau, Hīkinaʻakalā Heiau, and Kalaeokamanu Heiau), Holoholokū, Puʻuhonua o Hauola, and petroglyphs pecked into boulders at the river mouth are located in the general vicinity of the APE. These historic properties, which have been extensively documented elsewhere (c.f. Flores 1995; Dunbar 1988), are briefly described below.

Mālae Heiau (Site 50-30-08-104)

Mālae Heiau (Site 50-30-08-104), also known as Mālaehaʻakoa Heiau, occupies a roughly 2-acre area on the south side of the Wailua River inland of State Highway 56 (Kūhiō Highway) and the current APE. Mālae, the largest *heiau* remaining on the island of Kauaʻi, was built sometime prior to A.D. 1200, in the time of Moikeha when Wailuanuihoano ruled Kauaʻi (Dunbar 1988). Around 1830, the interior walls of the *heiau* structure were taken down and the enclosure was used as a pen for cattle. Later on, during the Historic Period, the surrounding area was bulldozed up to the edges of the outer walls of the *heiau* and planted in sugarcane. Today, the site is heavily overgrown with vegetation, and although Mālae has undergone adaptive reuse, its original walls and some associated features are still intact within the Wailua River State Park.

Hīkinaʻakalā Heiau, Puʻuhonua o Hauola, and associated petroglyphs (Site 50-30-08-105)

Hīkinaʻakalā Heiau and Puʻuhonua o Hauola (Site 50-30-08-105) are located nearby one another on the south side of the mouth of the Wailua River in the Lydgate Area of Wailua River State Park. Approximately 130 feet north of these features, nearest the APE is a series of petroglyphs on 8 boulders that are visible at low tide. Collectively, this site occupies an area of 2.3 acres. Flores (1999:II-6) notes that the name Hauola refers the beach area at the mouth of the Wailua River, where the ocean merges with the river, and that this place was known as a site where people would come to cleanse themselves in the water upon the recovery from a prolonged illness. Dickey (1917:15) referred to this area as "an ancient city of refuge," although Flores (1999:II-3) suggests that in ancient times the entire *ahupuaʻa* of Wailua was actually a *puʻuhonua*, not just the Hauola. In close proximity of Hauola is Hīkinaʻakalā Heiau (literally the *heiau* of the rising of the sun), where for centuries, the dawn was celebrated with prayers and chants. The walls of this large rectangular enclosure encompass an acre of land at the mouth of the Wailua River, and a row of wooden *kiʻi* (images) were once present outside the structure along the bank of the river mouth at a location known as Paekiʻimāhūowailua (Flores 1995). The petroglyphs on the boulders at the river mouth are situated nearby Paekiʻimāhūowailua, and may have also been associated with *heiau* functions that took place during the annual *makahiki* festival (cite NRHP form). These petroglyphs, which are *makai* of the APE, were mapped by Kikuchi (1984); petroglyphs on boulders submerged within the river were also reported by Kawachi (1993).

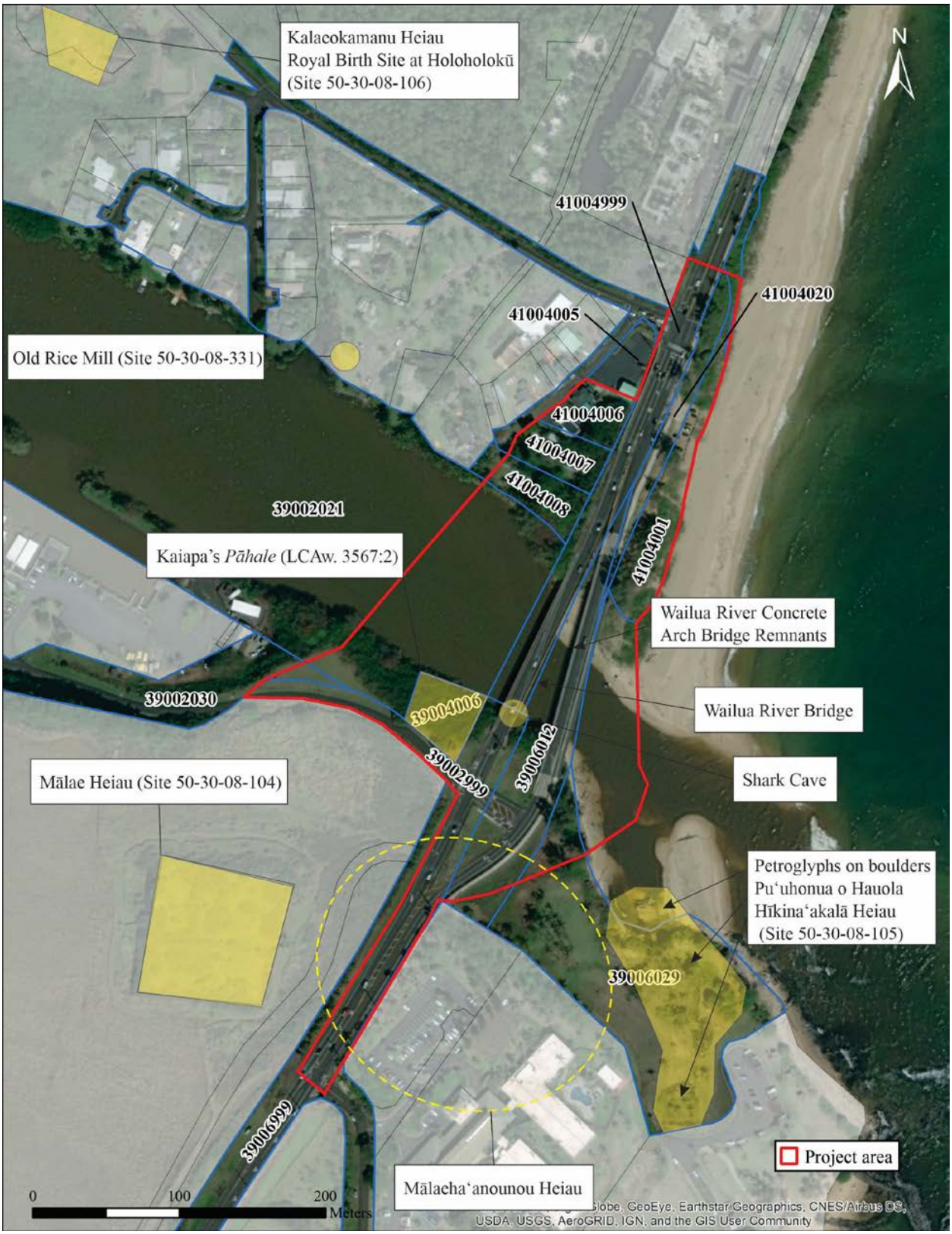

Figure 5. Known and potential historic properties in the vicinity of the APE

Kalaeokamanu Heiau and the Royal Birth Site at Holoholokū (Site 50-30-08-106)

Kalaeokamanu Heiau (also sometimes referred to as Holoholokū Heiau) and the royal birth site at Holoholokū (Site 50-30-08-105) are located *mauka* of the APE within a roughly 1 acre area to the south of Kuamoʻo Road in the Poliahu Area of Wailua River State Park, on the north bank of the Wailua River. According to Flores (1999:II-8), drums at Kalaeokamanu Heiau would have been used to announce the birth of an *aliʻi* child. Approximately 65 feet inland of the *heiau*, is Holoholokū, a site set aside as a birthing place for *aliʻi* (royalty). At this location are the royal birthstone (Pohaku Hoohanau) and ceremonial niche (Pohaku Piko) for the deposition of a newborn's umbilical cord.

Old Rice Mill (Site 50-30-08-331)

Ching (1968:12-13), reported the remains of an old rice mill (Site 50-30-08-331) located along the north bank of the Wailua River *makai* of Kalaeokamanu Heiau and inland of the current APE. The mill structure still stood in 1953, but by the time of Ching's (1968) study, only the foundations remained within the Wailua River State Park. Additional testing and signage were recommended for the site.

POTENTIAL HISTORIC PROPERTIES WITHIN THE APE

Prior studies for other projects have identified three potential historic properties within the APE—the Wailua River Bridge, the 1919 Wailua River Concrete Arch Bridge remnants, and the Wailua Plantation Bridge. A review of historical documentary resources indicates that in addition to the bridges and bridge remnants, other potential historic properties that could be encountered within the APE include a cave located near the river mouth that was formerly the home of a shark named Kuela, a *heiau* called Mālaehaʻanounou that was said to be located between Mālae Heiau and Hīkinaʻakalā Heiau, and a *pāhale* (house lot) claimed by Kaiapa during the *Māhele ʻĀina* of 1848 as Land Commission Award (LCAw.) 3567:2. These potential historic properties located within the APE are briefly described below (see Figure 5).

Historic Bridges and Bridge Remnants

Three previously documented, potential Historic bridges are present within the APE. These include the Wailua River Bridge, built in 1949, the Wailua Plantation Bridge (or Wailua Cane Haul Bridge), built in 1921, and the Wailua River Concrete Arch Bridge Remnants, built in 1919. These bridges and bridge remnants, two of which are the subject of this monitoring plan, were previously documented in 2003 by Mason Architects, Incand as part of an inventory and evaluation of the State's historic bridges conducted by MKE and Fung (2013). Only the Wailua River Bridge and Wailua River Concrete Arch Bridge Remnants currently retain significance as potential historic properties. The deck of the Wailua Plantation Bridge was replaced in 2012 and, due to that loss of integrity, is no longer considered historically significant (MKE and Fung 2013). All three of these potential historic properties are briefly described below.

Wailua River Bridge

Built in 1949, the Wailua River Bridge was the fourth bridge built across Wailua River (MKE and Fung 2013). According to fieldwork performed by Mason Architects, Inc. in 2003, the bridge design is typical of the World War II period, which makes it eligible for the National and Hawaii Register of Historic Places (NRHP and HRHP, respectively) under Criterion C. The bridge has retained integrity of location, design, materials, and workmanship since there has been very little modification since 1949, aside from the addition of metal railings. According to Mason Architect's 2003 study, while the bridge exemplifies characteristics of the period, the design in and of itself does not represent any unique or notable characteristics with regard to either engineering or aesthetic. What makes the bridge significant is its setting at the mouth of the Wailua River. According to MKE and Fung, "the bridge's historic associations and feeling are primarily evident through its parapets which were

typical of post-war bridges" (2013:3-69).

Wailua River Plantation Bridge

Wailua Plantation Bridge, also referred to as the Wailua Cane Haul Bridge, was constructed in 1921 as a railroad bridge (MKE and Fung 2013). Prior to 2012, it was one of the few remaining portions of the plantation-era sugar and pineapple transportation line on the east side of Kauai. Post World War II, the deck of the bridge was added to accommodate vehicular traffic including the addition of guard rails. Subsequently in 2011, a wider prefabricated modular deck, or Acrow bridge, replaced the previous bridge, adding a second traffic lane to it. Due to replacement, the bridge no longer meets eligibility for listing on the NRHP (MKE and Fung 2013).

Wailua River Concrete Arch Bridge Remnants

Remnants of the 1919 Wailua River Concrete Arch Bridge, which the current 1949 Wailua Bridge replaced, are located along the Wailua riverbanks *makai* of the existing bridge. The 1919 bridge was a narrow concrete arch bridge designed by Kauai County Engineer Joseph H. Moragne. The remnants, which are visible to this day, include the bridge abutments on both sides of the river and the parapet walls of the approach section on the Lihue side of the river. As a bridge, the Wailua River Concrete Arch Bridge has lost integrity of feeling and association because the bridge no longer exists. However, as indicated in Mason Architect's 2003 study, the structural remains (bridge parapet walls and abutment) have high integrity of location, design, materials, workmanship, and setting. As such, they may be eligible for the NRHP and HRHP under Criterion A for association with the development of Kūhiō Highway and Wailua River crossings, and under Criterion B for association with Kauai County Engineer Joseph H. Moragne.

Shark Cave

Legendary references to the Wailua River abound with tales of sharks and shark-gods, some of whom lived in caves beneath the surface of the water (c.f. Dickey 1917; Wichman 1998). One particular shark named Kuela is said to have lived in a cave near the mouth of the Wailua River, at the location of the Wailua River Bridge. According to Wichman (1998:73), "The present-day cement bridge [Wailua River Bridge] was built over it [the cave] and Kuela has had to find a new home." This cave is thought to have been along the southern bank of the river within the APE.

Mālaehaʻanounou Heiau

According to Flores (1999:II-4), "Malaehaʻanounou was said to be a former heiau that was likely located between Malaehaʻakoa and Hikinaakala…Very little has been documented regarding this site other than that there was an *ʻili* noted with a corresponding name in this vicinity." Although speculative, the suggested location of this potential *heiau*, between Mālae Heiau and Hīkinaʻakalā Heiau, could place it in the vicinity of Kūhiō Highway, and within the current APE.

Kaiapa's *Pāhale* (LCAw. 3567:2)

During the *Māhele ʻĀina* of 1848, Kaiapa was awarded a *pāhale* along the southern bank of the Wailua River within the village of Makaukiu as LCAw. 3567:2. No information regarding the specific features that may have been present within the house lot are presented in the *Māhele* records for the award, but Kaipa's *pāhale* (TMK: (4) 3-9-004:006) is located within the APE (see Figure 3). The name of the village, Makaukiu, is also sometimes applied to the nearby Mālae Heiau (Ching 1981).

PRIOR ARCHAEOLOGICAL STUDIES AND ANTICIPATED ARCHAEOLOGICAL REMAINS

In addition to the documentation of the historic properties described above, there have been numerous archaeological studies conducted in this general area of the Wailua River mouth with several focused in the general vicinity of Kūhiō Highway near the Wailua River Bridge and the Wailua Plantation Bridge. To generate a set of expectations regarding the nature of historic properties that might be encountered within the APE during the monitoring effort, the results of prior archaeological studies that included the portions of the APE are briefly summarized below, followed by a discussion of the types and locations of archaeological remains that are anticipated within the APE.

Prior Archaeological Studies within the APE

Several prior archaeological studies have included portions of the APE. The earliest of these studies, conducted by the B.P. Bishop Museum within the Wailua River Valley (Ching 1968; Soehren 1967), identified and assigned site numbers to the known historic properties in the vicinity of the APE described above. Subsequent studies that included subsurface testing within and nearby the APE were conducted by Hammatt (1991), Yent (1991), Spear (1992), and Hammatt et al. (1997). Most recently, monitoring for the installation of a fiber optic communication line within the APE was conducted by Dega and Powell (2010). The findings of these studies are discussed below.

Hammatt (1991) conducted subsurface testing to the north of the Wailua River mouth along the *makai* edge of the APE. No cultural deposits were observed as a result of the testing.

Yent (1991) conducted archaeological testing at the mouth of Wailua River (along its southern bank) near the makai boundary of the APE, and identified several fill layers and extensive ground alteration in the tested area, as well as a possible Precontact Period cultural deposit. No site number was assigned to the potential cultural deposit, however.

Spear (1992) conducted sub-surface testing (7 backhoe trenches) in an area north of the Wailua River mouth and *makai* of Kūhiō Highway, adjacent to the APE. He reported no significant archaeological findings, but did note the presence of two charcoal lenses within the tested area.

Hammatt et al. (1997) conducted an archaeological inventory survey (AIS) that examined three potential options for widening Kūhiō Highway and constructing a bypass road around Kapa‘a. This study, which included trenching along several potential road alignments did not identify any archaeological remains within the APE, but did mention the presence historic properties described above, and note that in general the south side of the river is less disturbed and more historically significant than the north side. A cobble alignment located inland of the APE on the north side of the river was the only new archaeological site identified by Hammatt et al. (1997).

Dega and Powell (2010) present the results of archaeological monitoring that was conducted in conjunction with trenching for the installation of a fiber optic communication line along Kūhiō Highway immediately north of the Wailua River Bridge within the APE for the current project. In the monitoring report for that project, the authors note that no archaeological materials were observed during trenching, but suggest that this was likely due to the limited scale of the project (50 linear feet of trench) and the modern nature of the sediments excavated immediately adjacent to the current road bed. Despite the lack of findings, Dega and Powell (2010:11) recommended that “full-time Monitoring is warranted for the project area and environs, should future ground altering work occur there, due to the extremely sensitive nature of the Wailua area in regard to historic properties documented within.”

Anticipated Archaeological Remains

Given the known/potential historic properties at the mouth of the Wailua River and the findings of prior archaeological studies conducted in the vicinity of the APE, the locations of anticipated archaeological remains for the proposed undertaking are now discussed. The north bank of the river is moderately likely to yield cultural materials. Although several burials have been previously discovered in the vicinity of Coco Palms, prior archaeological excavations conducted within the northern portion of the APE along the shoulders of Kūhiō Highway (Dega and Powell 2010; Hammatt 1991) have demonstrated that limited archaeological materials are likely to be present. Thanks to the largely fluvial sediment in the riverbed, it is unlikely that there are cultural remains in the immediate area surrounding the bridge supports, although care should be taken to avoid the Wailua River Concrete Arch Bridge Remnants as well as the shark cave (if it is still present), and to maintain the historic characteristics of the Wailua River Bridge to the extent possible. The portion of the APE on the southern bank of the river is the most sensitive portion of the proposed project area with the possibility of encountering outlying features from the nearby *heiau* sites within the roadway itself, and the buried remnants of Kaiapa’s *pāhale* (LCAw. 3567:2) in the vicinity of TMK: (4) 3-9-004:006.

4. THE MONITORING EFFORT

Prior to the onset of ground-disturbing activities, the primary archaeological monitor will meet with the equipment operators to discuss the procedures for monitoring, the cultural significance of the Wailua River mouth area, and the locations of potential historic properties within the APE. It will be explained that the monitoring archaeologist has the authority to halt ground-disturbing activities in the event that cultural resources are encountered. If cultural resources identified during monitoring are deemed significant, the monitoring archaeologist will immediately notify DLNR-SHPD/SHPO and coordinate consultation as appropriate with any groups or organizations. Additionally, DLNR-SHPD/SHPO will be notified upon the onset and completion of the monitoring activities, along with any change in status of the monitoring, such as a shift from on-site to on-call monitoring.

FIELD METHODS

A qualified archaeological monitor will be present on-site to observe **all ground-disturbing activities** associated with the proposed project. When on site, the monitor will keep a daily log of activities performed and any discoveries made. The project area and development activities will be photographed over the course of the project, and these photographs will be included in the Archaeological Monitoring Report prepared at the end of the project. Monitors will inspect all exposed soil and examine the stratigraphic profiles of any deep cuts. This practice will be followed in an effort to identify previously unrecorded cultural deposits, features, artifacts, and human skeletal material. Additionally, representative stratigraphic, scaled profiles will be prepared, even in the absence of identified cultural deposits or features, at least one of which will be included in the Archaeological Monitoring Report for reference. If any archaeological resources are encountered, the following procedures will be initiated:

Cultural Deposits

The monitor will notify DLNR-SHPD/SHPO if non-burial historic properties are identified. All cultural deposits and sequences (including representative natural sequences) identified during the monitoring effort will be mapped, representative scaled profile drawings and plan views will be prepared, photographs will be taken, and the soils will be described in detail (using standard USDA soil descriptions and Munsell colors). The locations of these deposits will be recorded using sub-meter accuracy GPS technology and placed on a map (and/or table) and presented in the Archaeological Monitoring Report. If intact cultural deposits are discovered during monitoring, an assessment will be made as to their integrity and significance using the criteria enumerated in HAR §13-284-6(b). If the deposit is deemed significant and is likely to be further impacted by ground-disturbing activities, work in the affected area will be curtailed, and an appropriate mitigation strategy will be developed in consultation with DLNR-SHPD/SHPO.

Cultural Features

Subsurface cultural features will be fully described, drawn, and photographed. Provenience information will also be recorded and related to an established project datum ensuring accurate horizontal and vertical placement. The limits of the feature will be defined, if possible, without further excavation, and any natural or cultural associations (including surrounding soil) will be noted. Locations of subsurface cultural features will be recorded using sub-meter accuracy GPS technology. The locations of these features will be recorded on a map (and/or table) and will be presented in the Archaeological Monitoring Report. Where appropriate, samples for further analyses will be recovered and processed.

Artifacts

Artifacts observed in the removed soil will be recovered and their general provenience recorded. All traditional Precontact Hawaiian artifacts and diagnostic post-Contact artifacts will be recovered for laboratory analysis. The precise locations of any items found *in situ* will be recorded and the items photographed and recovered for subsequent laboratory analysis, and their locations recorded using sub-meter accuracy GPS technology. The locations of these points will be recorded on a map (and/or table) and will be presented in the Archaeological Monitoring Report. Any observed associations will also be documented, and the surrounding soil will be described using standard USDA soil descriptions and Munsell colors.

Human Skeletal Remains

If human skeletal remains are encountered during the monitoring effort, the on-site monitor will halt all ground-disturbing activity in the immediate area of the discovery, stabilize the remains, and contact the appropriate authorities. DLNR-SHPD staff from the Archaeology Branch and from the History and Culture Branch will be notified immediately, and the monitor will notify the appropriate on-site construction personnel, the Police, and Medical Examiner, as appropriate. If the skeletal material is determined to be Historic or Precontact (as opposed to recent), the monitoring archaeologist will direct the applicant to seek DLNR-SHPD/SHPO guidance on how to proceed with the discovery, and the human skeletal remains will be handled in compliance with HRS Chapter 43.6, HAR §13-300, and

DLNR-SHPD/SHPO directives. If the remains are determined to be recent, the Kauai Police Department will be contacted.

TREATMENT OF RECOVERED REMAINS

All recovered material will be temporarily stored within a secure location. The recovered items will be recorded in a field catalog, and upon completion of the monitoring fieldwork the disposition of the items will be as follows:

Cultural Material

Artifacts from intact contexts will be analyzed; those recovered from fill will simply be cataloged. Analyzed items will be cleaned, weighed, measured, photographed, and illustrated (if appropriate). Analysis will include formal description and functional interpretation. The identification of artifacts, vertebrate faunal remains, and invertebrate faunal remains will include comparison with reference collections and materials, as needed.

Recovered Samples

All recovered samples (soil, charcoal, etc.) will be initially processed by the qualified archaeological monitor before being dispersed to the appropriate institutions for detailed analysis.

Human Skeletal Remains

If DLNR-SHPD determines that the removal of buried human remains is an appropriate course of action, then a treatment/reburial plan will be developed in consultation with DLNR-SHPD/SHPO and other consulted parties, as appropriate in accordance with Hawai‘i State law as outlined in HAR §13-300.

REPORTING

Following completion of archaeological monitoring, a draft monitoring report will be prepared and submitted to DLNR-SHPD for review and acceptance. This report will follow the specifications contained in HAR §13-279-5. If any human skeletal remains are recovered as part of the monitoring project, they will be summarized in the final monitoring report following procedures contained in HAR §13-300. A final monitoring report will be submitted to DLNR-SHPD within 90 days of completion of the monitoring fieldwork.

CURATION OF RECOVERED ITEMS

Any material recovered during the project will be temporarily stored for a period of no more than one year following submission of the final monitoring report, during which time arrangements will be made for permanent curation in consultation with HDOT and DLNR-SHPD/SHPO. It will be the HDOT’s responsibility to secure permanent curation in an acceptable facility; included in this responsibility are the costs associated with long-term curation.

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APPENDIX A

DAVID Y. IGE
GOVERNOR OF
HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING
601 KAMOKILA BLVD., STE 555
KAPOLEI, HI 96707

August 28, 2020

IN REPLY REFER TO:
Log No.: 2020.01523
2020.01798
Doc. No.: 2008SH15
Archaeology
Architecture

Lawrence J. Dill, P.E.
District Engineer , Kaua'i, Highways Division
State of Hawai'i Department of Transportation
1720 Haleukana Street
Lihue, Hawai'i 96766
Email: Lawrence.j.Dill@hawaii.gov

Dear Lawrence J. Dill:

SUBJECT: **National Historic Preservation Act (NHPA) Section 106 Review –**
Initiation of Consultation and Request for Concurrence with the Area of Potential Effects
Wailua River Bridge Permanent Repairs
Ref. No. HWY-K 4.200132, Federal Aid Project No. ER-23(001)
Wailua Ahupua'a, Puna District, Island of Kaua'i
TMK: (4) 3-9-002:021, (4) 3-9-002:030, (4) 3-9-002:999, (4) 3-9-004:006, (4) 3-9-006:009, (4) 3-9-006:012, (4) 3-9-006:016, (4) 3-9-006:029, (4) 3-9-006:999, (4) 4-1-004:001, (4) 4-1-004:005, (4) 4-1-004:006, (4) 4-1-004:007, (4) 4-1-004:008, (4) 4-1-004:020, (4) 4-1-004:999

The State Historic Preservation Division (SHPD) received a letter dated June 25, 2020 from the State of Hawai'i Department of Transportation (HDOT) on behalf of the Federal Highway Administration (FHWA) to initiate Section 106 consultation and to request information and the State Historic Preservation Officer's (SHPO's) concurrence with the Area of Potential Effects (APE) for the Wailua River Bridge Permanent Repairs project on the island of Kaua'i. The SHPD received this submittal as a hard copy on July 1, 2020 (SHPD Log No. 2020.01523), however in response to the Covid-19 pandemic, SHPD ceased accepting hard copies in April 2020. On July 30, 2020 SHPD review staff requested HDOT submit an electronic copy via email for access to the submittal; an electronic copy was received by intake and assigned SHPD Log number 2020.01798 on August 7, 2020.

The proposed HDOT project will receive funding from the FHWA and is therefore a federal undertaking as defined in 36 CFR 800.16(y). The proposed project is subject to compliance with Section 106 of the NHPA. Pursuant to the Programmatic Delegation of Authority (May 2016), the FHWA has delegated Section 106 consultation to the HDOT. HDOT has determined this project is exempt from the State of Hawai'i Chapter 6E review process under the governor's emergency proclamation dated April 21, 2020 and supplementary proclamations dated, June 20, 2020 and August 19, 2020 (August 28, 2020 Email correspondence; Eric Fujikawa [HDOT] to Stephanie Hacker [SHPD]).

HDOT indicates that between March 27-28 [2018], heavy rains and flooding on the island of Kauai created large debris fields that swept thru waterways, damaging supporting structures for Kuhio Highway including Wailua River Bridge and Wailua Plantation Bridge. On April 21, 2020, Governor David Ige issued an emergency proclamation to provide relief for disaster damages, losses, and suffering, as well as to protect the health, safety, and welfare of people. Emergency repairs, coordinated with SHPD and the Advisory Council on Historic Preservation, were undertaken to secure the bridges and re-open the roadway. Now that the roadway is re-opened, the proposed project addresses the permanent repairs required to prevent further damage to vulnerable assets.

HDOT states that repeated scour events in 2018, and again in 2020, resulted in exposed timber piles and partial exposure of bridge foundations for the Wailua River Bridge, which has already surpassed its intended 50-year design life. The most recent event highlighted these vulnerabilities and the need to prevent both sudden and gradual failure of the bridge's substructure, as debris material from the current event was observed below the footings and in between the timber piles. HDOT proposes to extend the life of the bridge and avoid full bridge replacement by replacing the substructure or piers. This would be accomplished by installing two drilled shafts at each existing pier. The existing bridge deck will then be lifted and a beam would be placed above the drilled shafts and under the bridge deck to support the deck. The superstructure or deck would remain intact, while new piers would be constructed. The proposed project will also replace the grouted rubble paving near the bridge abutments, repair large spalls and cracks in the reinforced concrete members, and add a curb ramp and upgrade 1 of the 4 guardrail transitions that abut the bridge on the northwest side of the bridge.

In consideration of the dynamic field conditions of this project location, the contractor may elect to install a temporary trestle bridge adjacent and parallel to the Wailua River Bridge on both sides of the existing bridge. The trestle bridge would consist of 3 rows of 30-inch diameter pipe piles spaced at 15 feet on center, parallel to the existing bridge, in a checkerboard configuration. Depending on field conditions, this temporary trestle bridge could be used to support the drill rig while installing the permanent drilled shafts.

In addition to the repairs at Wailua River Bridge, HDOT proposes to implement scour countermeasures at Wailua Plantation Bridge. Countermeasures involve placing grout bags around certain piers, filling the gaps at the grout bags with sand, and placing grouted rubble paving near the bridge abutments to prevent the material from migrating. HDOT notes that given the uncertain time frame and tidal influence that affects when this work may proceed, the grout bag repair work at Wailua Plantation Bridge may exceed the period of applicability for emergency situations, therefore, HDOT has decided to include this repair work under the environmental review processes.

The APE is defined as approximately 11 acres consisting of the section of Kuhio Highway from Leho Drive to Kuamoo Road. The APE includes a construction staging and stockpiling area along the Wailua Marina Access Road that is located on the Lihue side of Kuhio Highway, mauka of the highway right-of-way. It includes the length and width of the right-of-way for the identified section of Kuhio Highway, which is roughly 0.7 miles long and up to 240 feet wide. Additionally, the APE widens as the Wailua River Bridge approaches, extending up to roughly 600 feet mauka beyond the highway right-of-way to allow for the trestle bridge, if needed, as well as for access and work areas beneath the bridge. Based on the information received, **the SHPO has no objections to the APE as it is defined**.

HDOT identified three potential historic properties within the APE. This includes the 1945 Wailua River Bridge, the 1919 Wailua River Concrete Arch Bridge remnants, and the 1921 Wailua Cane Hall Plantation Bridge.

In response to HDOT's request for a contact list of potential consulting parties, the SHPD recommends HDOT refer to the Native Hawaiian Organization Notification List provided by the U.S. Department of the Interior and maintained by the Office of Native Hawaiian Relations. This can be referenced online at: https://www.doi.gov/hawaiian/NHOL. Additionally, SHPD recommends expanding consultation to interested parties such as civic clubs and historic preservation interest groups such as The National Trust for Historic Preservation.

HDOT has requested SHPD provide information on all eligible historic properties or cultural sites listed on the state inventory that are within the boundaries of the APE, including the dimension of each site (length, width, and depth) as well as information on issues SHPD may have relating to the undertaking's potential effects on each historic property HDOT identified or that SHPD has identified and provided a description on. While SHPD appreciates that HDOT is considering the importance of noting the dimensions of historic properties as part of the identification efforts, it is the responsibility of the lead federal agency to conduct the efforts to identify historic properties. SHPD notes that the APE is located within an area that is likely to contain subsurface archaeological historic properties as well as human remains. If adequate archaeological investigations have not been conducted within the archaeologically sensitive areas in the APE, testing may be warranted; SHPD highly recommends consulting with our office prior to conducting any efforts to identify subsurface historic properties by means of a field survey or subsurface testing to ensure efforts are agreed to be adequate and to determine the best way to address methods to avoid, minimize, and/or mitigate harm to potential subsurface historic properties.

Per the above request, the SHPD recommends HDOT consult our library, archival records, and the State and National Register of Historic Places to identify previously documented historic properties that may be located within the APE. If adequate records of previously recorded architectural and/or archaeological historic properties within or closely nearby the APE do not exist, then additional efforts to identify archaeological and/or architectural historic properties may need to be conducted.

In order for the SHPD to respond to HDOT's request for information pertaining to possible concerns with the undertaking's potential effect(s) on identified significant historic properties, the HDOT/FHWA will need to have identified historic properties within the APE, determine if they are eligible for listing on the National Register of Historic Places, and provide a description of the historic property's characteristics that qualify it for listing as well as how the proposed project will, or will not, impact the historic property. Upon receipt of this information the SHPO can provide a response to HDOT's inquiry.

The SHPD looks forward to continuing the Section 106 process for the proposed project.

The FHWA and the HDOT are the offices of record for this undertaking. Please maintain a copy of this letter with your environmental review record for this undertaking.

Please contact Julia Flauaus, Architectural Historian, at Julia.Flauaus@hawaii.gov or at (808) 692-8029 for matters regarding architectural resources. Please contact Stephanie Hacker, Historic Preservation Archaeologist IV, at Stephanie.Hacker@hawaii.gov or at (808) 692-8046 for matters regarding archaeological resources or this letter.

Aloha,
Alan Downer

Alan S. Downer, PhD
Administrator, State Historic Preservation Division
Deputy State Historic Preservation Officer

cc: Eric Fujikawa, HDOT (Eric.i.Fujikawa@hawaii.gov)