



**U.S. ARMY CORPS OF ENGINEERS  
REGULATORY PROGRAM  
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)  
NAVIGABLE WATERS PROTECTION RULE**

**I. ADMINISTRATIVE INFORMATION**

Completion Date of Approved Jurisdictional Determination (AJD): 6/8/2021

ORM Number: POH-2021-00034

Associated JDs: None

Review Area Location<sup>1</sup>: State/Territory: Hawaii City: Napili-Honokowai County/Parish/Borough: Island of Maui

Center Coordinates of Review Area: Latitude 20.953428 Longitude -156.650156

**II. FINDINGS**

**A. Summary:** Check all that apply. At least one box from the following list MUST be selected. Complete the corresponding sections/tables and summarize data sources.

- The review area is comprised entirely of dry land (i.e., there are no waters or water features, including wetlands, of any kind in the entire review area). Rationale: N/A or describe rationale.
- There are “navigable waters of the United States” within Rivers and Harbors Act jurisdiction within the review area (complete table in Section II.B).
- There are “waters of the United States” within Clean Water Act jurisdiction within the review area (complete appropriate tables in Section II.C).
- There are waters or water features excluded from Clean Water Act jurisdiction within the review area (complete table in Section II.D).

**B. Rivers and Harbors Act of 1899 Section 10 (§ 10)<sup>2</sup>**

§ 10 Name	§ 10 Size	§ 10 Criteria	Rationale for § 10 Determination
N/A.	N/A.	N/A.	N/A.

**C. Clean Water Act Section 404**

Territorial Seas and Traditional Navigable Waters ((a)(1) waters): <sup>3</sup>			
(a)(1) Name	(a)(1) Size	(a)(1) Criteria	Rationale for (a)(1) Determination
N/A.	N/A.	N/A.	N/A.

Tributaries ((a)(2) waters):			
(a)(2) Name	(a)(2) Size	(a)(2) Criteria	Rationale for (a)(2) Determination
N/A.	N/A.	N/A.	N/A.

Lakes and ponds, and impoundments of jurisdictional waters ((a)(3) waters):			
(a)(3) Name	(a)(3) Size	(a)(3) Criteria	Rationale for (a)(3) Determination
N/A.	N/A.	N/A.	N/A.

Adjacent wetlands ((a)(4) waters):			
(a)(4) Name	(a)(4) Size	(a)(4) Criteria	Rationale for (a)(4) Determination
N/A.	N/A.	N/A.	N/A.

<sup>1</sup> Map(s)/figure(s) are attached to the AJD provided to the requestor.

<sup>2</sup> If the navigable water is not subject to the ebb and flow of the tide or included on the District’s list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

<sup>3</sup> A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD Form.



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**D. Excluded Waters or Features**

Excluded waters ((b)(1) – (b)(12)): <sup>4</sup>				
Exclusion Name	Exclusion Size		Exclusion <sup>5</sup>	Rationale for Exclusion Determination
Pulepule Gulch, Kahanaiki Gulch, Mahinahina Gulch, and an Unnamed Gulch	237 linear feet of Pulepule Gulch; 850 linear feet of Kahanaiki Gulch; 194 linear feet of Unnamed Gulch; and 9 linear feet of Mahinahina Gulch	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	<p>The 412-acre AOR contains four sections of flat former pineapple fields, referred to as Areas 1 through 4 from south to north, and nine sections of four features: Pulepule Gulch, Kahanaiki Gulch, Mahinahina Gulch, and an Unnamed Gulch. The nine sections of the aforementioned four features for potential road crossings were labeled by the agent as Pulepule A and B; Kahanaiki A, B, and C; Unnamed A, B, and C; and Mahinahina. The combined area of the sections of each of the four features within the AOR is as follows: 0.061 acres along 237 linear feet of Pulepule Gulch; 0.260 acres along 850 linear feet of Kahanaiki Gulch; 0.044 acres of 194 linear feet of Unnamed Gulch; and 0.0007 acres along 9 linear feet of Mahinahina Gulch.</p> <p>The land in the AOR was used for commercial pineapple and sugar cane cultivation until 2009. Since 2009, the land has been allowed to lie fallow. According to the January 2018 State of Hawaii Land Use District Boundaries mapping application (<a href="https://histategis.maps.arcgis.com/apps/webappviewer/index.html?id=b843c728b4cb4333b1df015fdaa84104">https://histategis.maps.arcgis.com/apps/webappviewer/index.html?id=b843c728b4cb4333b1df015fdaa84104</a>), the AOR is within a large area zoned for agriculture. According to the State of Hawaii Land Use Commission’s State Land Use Districts website, “The Agricultural District includes lands for the cultivation of crops, aquaculture, raising livestock, wind energy facility, timber cultivation, agriculture-support activities (i.e., mills, employee quarters, etc.) and land with significant potential for agriculture uses”. The nearest urban area is approximately 1.72 miles west of the AOR along Honoapiilani Highway.</p> <p>Desktop references do not show any wetlands or other potential waters of the U.S. in the four former pineapple field sections of the AOR. In site visits on 1, 2, and 3 July 2020 and 19 October 2020, the agent surveyed the vegetation in the four former pineapple field sections,. Generally, all four Areas are vegetated by herbaceous species with trees present at the tops of the four gulches between the four Areas. The flatter portions of Areas 1 and 2 at the south half of the AOR were observed to be dominated by with overgrown pineapple plants (<i>Anas cosmosus</i>, UPL), molasses grass (<i>Melinis minutiflora</i>, FAC), sourgrass (<i>Digitaria insularis</i>, FACU), and butterfly bush (<i>Buddleja asiatica</i>, FACU). Asian sword fern (<i>Nephrolepis brownii</i>, FAC) was also observed to be common in the flat areas of Areas 1 and 2. Along the tops of the gulches next to the flat areas at Areas 1 and 2, the vegetation shifted from herbaceous to trees, including <i>Cryptomeria japonica</i> (UPL), <i>Cupressus macrocarpa</i> (UPL),</p>

<sup>4</sup> Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.

<sup>5</sup> Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.



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				<p>silk oak (<i>Grevillea robusta</i>, FACU), Formosan koa (FACU), Christmas berry (<i>Schinus terebinthifolius</i>, FACU), and Eucalyptus species (<i>Eucalyptus camaldulensis</i>, FAC, and <i>E. rudis</i>, FACU). The flatter portion of Area 3 was observed to be primarily vegetated with monotypic stands of guinea grass (<i>Urochloa maxima</i>, FAC) with few scattered trees including silk oak (<i>Grevillea robusta</i>, FACU) and guava (<i>Psidium guajava</i>, FACU). The tops of the gulches in Area 3 are vegetated with thick stands of Asian sword fern (<i>Nephrolepis brownii</i>, FAC) mixed with molasses grass (<i>Melinis minutiflora</i>, FAC), pineapple plants (<i>Anas cosmosus</i>, UPL), and various vining species including lilikoi (<i>Passiflora edulis</i>, FACU) and white thunbergia (<i>Thunbergia fragrans</i>, UPL). The flat part of Area 4, the northern most flat area in the AOR, is covered with thick vines of the invasive maunaloa (<i>Canavalia cathartica</i>, FACU) vine with some overgrown pineapple plants (<i>Anas cosmosus</i>, UPL). The tops of the gulches along the flat part of Area 4 are vegetated with Eucalyptus species (<i>Eucalyptus camaldulensis</i>, FAC, and <i>E. rudis</i>, FACU), large ‘a’ali’i (<i>Dodonaea viscosa</i>, FACU), guava (<i>Psidium guajava</i>, FACU) and formosan koa (<i>Acacia confuse</i>, FACU). Since the agent did not assess or provide the percent absolute cover for each of the four areas, it is not possible to conduct the dominance test or prevalence index for vegetation in accordance with the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Hawaii and Pacific Islands Region. However, none of the most prevalent species observed in the four former pineapple areas has a wetland indicator status of FACW or OBL. Additionally, the fields were once used to grow pineapple, with a wetland indicator status of UPL, which is still present in all four areas, indicating that even following active farming and associated water management the site is sufficiently dry to support a species that requires dry conditions.</p> <p>Based on the vegetation survey and soils information provided in the delineation report and gathered from the NRCS SSURGO database layer in Google Earth Pro, the four flat former pineapple field Areas within the AOR do not satisfy all three wetland factors (i.e., hydrology, hydrophytic vegetation, hydric soils) and do not lie below the ordinary high water mark or the high tide line of a jurisdictional water. The Corps has determined that in accordance with 33 CFR 328 the four flat former pineapple field Areas are comprised entirely of uplands and does not contain waters of the U.S..</p> <p>All four features in the AOR are shown on aerial photography and Earth Point USGS topographic data layer for Google Earth Pro. Only Pulepule Gulch, Kahanaikei Gulch, and Mahinahina Gulch are shown on the EPA Waters GeoViewer application, on the USFWS NWI data layer for Google Earth Pro, on the National Hydrography Dataset (NHD), and on DLNR DAR mapping. The Unnamed Gulch is not shown in any of those reference data layers. In the DLNR DAR</p>



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				<p>mapping data layer, Pulepule Gulch and Kahanaiki Gulch are classified as perennial streams and Mahinahina Gulch is classified as a non-perennial stream, while the Unnamed Gulch is not shown in the mapping data layer. Additionally, as stated in the delineation report, Pulepule Gulch, Kahanaiki Gulch, and Mahinahina Gulch are classified as intermittent streams in the NHD and as Riverine, Intermittent, Streambed, Seasonally Flooded (R4SBC) and partially Freshwater Forested/ Shrub Wetland in the USFWS NWI map. No other wetland areas are shown in the AOR in the USFWS NWI data layer. In the Atlas of Hawaiian Watersheds Pulepule Gulch and Kahanaiki Gulch are visible, but Mahinahina Gulch and Unnamed Gulch are not shown. Being visibly noted in multiple desktop references may indicate that flow occurs in Pulepule Gulch, Kahanaiki Gulch, and Mahinahina Gulch with sufficient frequency to be mapped. Conversely, being absent from desktop references may indicate that flow is not sufficiently frequent for a feature to be delineated for informational mapping resources.</p> <p>According to the NHD, DAR, and NWI datasets, Pulepule Gulch drains into Kahanaiki Gulch approximately 0.75 miles west outside of the AOR. Further west approximately 1.5 miles west outside of the AOR, Kahanaiki Gulch joins the main branch of Kahana Stream. Kahana Stream continues through the Kahana Nui Desilting Basin, a 50-foot-high earthen dam with emergency spillway upstream of Honoapiilani Highway. Standing water is present in the Kahana Nui Desilting Basin due to flow being held in the basin until it reaches the height of the principle spillway and buried outlet pipes. Downstream of Honoapiilani Highway, Kahana Stream passes through a residential community, beneath a bridge along Lower Honoapiilani Road, to the shoreline along an unlined sandy channel, and into the Pacific Ocean north of Kaea Point and Kahana Village. The feature referred to as Unnamed Gulch joins Mahinahina Gulch south of the Kapalua Airport approximately 1.32 miles southwest outside the AOR. Mahinahina Gulch continues west beyond the limits of the AOR, through a sedimentation basin upstream of Honoapiilani Highway, then beyond Honopiilani Highway through a concrete channel in a residential community. Mahinahina Gulch continues in a concrete channel under a bridge along Lower Honoapiilani Road and to a sand berm at the Pacific Ocean, located north of the Lokelani condominiums and south of Hale Mahina Beach resort. The agent stated that the Mahinhina Gulch sand berm is breached and allows flow into the Pacific Ocean during high flow events.</p> <p>Pulepule Gulch begins at approximately 950 feet above sea level and is at the west end of the AOR. The two sections of Pulepule Gulch within the AOR are referred to as Pulepule A to the west and Pulepule B to the east. Since both Pulepule A and B currently have</p>



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				<p>dirt crossings, the agent examined Pulepule Gulch on both sides of each crossing. The agent did not observe the bed and banks of a channel on the east side of the upper dirt crossing at Pulepule Gulch (Pulepule B) but did observe that the existing dirt crossing included a small culvert blocked by dirt and debris. The presence of the culvert suggests that flow in Pulepule Gulch was sufficient to require a way for water to traverse the road and that the flow was sufficient to transport an amount of sediment that could block the culvert. However, the presence and blockage of the culvert do not reflect a specific frequency of flow in Pulepule Gulch. The agent observed channel bed and banks in Pulepule Gulch west of Pulepule B, with a width of three to six feet and a depth of three feet. The agent observed that the substrate in Pulepule Gulch west of Pulepule B was absent of rooted vegetation and included some saturated soils and ponded water. The agent suggested that the source of water for the saturated soils and ponded water could be a potable water well located immediately east of Pulepule B. The area surrounding Pulepule Gulch at the west side of Pulepule B was vegetated with 95% absolute cover of guinea grass (<i>Urochloa maxima</i>, FAC), 20% cover for (<i>Psidium guajava</i>, FACU) and 10% for Christmas berry (<i>Schinus terebinthifolius</i>, FACU). On the east side of the lower dirt crossing Pulepule Gulch (Pulepule A), the agent observed that the ground was slightly concave and used the change in slope to delineate a 1-foot deep channel as having diffuse banks, but the entirety of the channel was vegetated with 100% absolute cover of herbaceous vegetation, primarily guinea grass (<i>Urochloa maxima</i>, FAC). On the west side of Pulepule A, the agent observed that Pulepule Gulch continued to be weakly defined with slightly less cover of guinea grass (<i>Urochloa maxima</i>, FAC) in the channel with 60% absolute cover in contrast to 100% guinea grass cover of the surrounding area. The agent also observed that trees, including kukui (<i>Aleurites moluccanus</i>, FACU), were growing in the surrounding area but were excluded from Pulepule Gulch. The reduced cover of herbaceous vegetation and absence of trees within the channel at the lower elevation end (west) of Pulepule A suggest that the channel experiences slightly more wet conditions and erosion than the surrounding area, but does not flow with sufficient frequency to prevent the growth of guinea grass in the channel. Both Pulepule B and A were not flowing during the site visits. In summary, in both the July and October 2020 site visits, the agent observed weak or absent channel morphology, a lack of flow, and a lack of indicators of frequent flow in Pulepule Gulch.</p> <p>Kahanaiki Gulch begins approximately at 2,200 feet in elevation east of the AOR, joins Pulepule Gulch approximately west of the AOR, and eventually joins Kahana Stream near Honoapiilani Highway. The agent referred to the three sections of Kahanaiki Gulch within the AOR as Kahanaiki A at the west and lower elevation end of the AOR, Kahanaiki B in the center, and Kahaniki C</p>



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				<p>at the east and higher elevation end of the AOR. Since all three of the sections of Kahanaiki Gulch within the AOR have existing or former crossings within the footprint of Kahanaiki Gulch, the agent examined both sides of all three crossings. At the upper elevation crossing at Kahanaiki Gulch (Kahanaiki C) at the east end of the AOR, the agent observed that the channel was approximately 10 feet wide by 3 feet deep on both sides of a twin culvert crossing with a ten-foot drop from the east to the west side. The agent observed that one of the two culvert pipes was blocked by debris and was only visible from the west side of Kahanaiki C. The agent observed that the substrate on both sides of the road crossing at Kahanaiki C is mostly absent of vegetation with approximately 3% absolute cover of guinea grass (<i>Urochloa maxima</i>, FAC) rooted in the channel. The remainder of the substrate in the channel consists of irregularly shaped boulders interspersed with fine sediment and small pieces of vegetative debris. The boulders do not appear to have consistent staining, but some of the boulders have been colonized by moss. The boulders visible within the channel at Kahanaiki C were not observed in the surrounding area, indicating more frequent erosion in the channel which is potentially the result of occasional high velocity flow. However, the difference of exposed boulders within the channel and not outside of the channel does not signify a specific frequency of flow. Furthermore, the irregular shape of the boulders in this section of the channel suggests that flow at Kahanaiki C does not occur with sufficient frequency to erode the boulders into round shapes typical of more regularly-flowing streams. In perennial and more regularly-flowing streams, a combination of the boulders rolling in high flows and friction from the water and finer sediment carried in the water passing over the boulders erodes boulders into smooth round shapes. Similarly, the lack of staining on the boulders in this section of channel suggests that a consistent water level is not present in the channel. Perennial streams tend to have a somewhat consistent water level that can leave a horizontally-oriented stain at the same elevation of all the boulders within a channel. Similar to consistent horizontal staining, moss located in a consistent area on the majority of boulders in a channel can indicate regular flow and water depth. The presence of moss in varied inconsistent locations on boulders in the channel at Kahanaiki C may indicate the occasional the presence of moisture, but suggests that flow is not sufficiently frequent to develop a consistent level of moss across the majority of the boulders. The agent did not observe any flow or ponding of water within the channel at the road crossing.</p> <p>The agent also did not observe flow in the Kahanaiki Gulch further west at Kahanaiki B. While there is no current road crossing at Kahanaiki B, the agent observed a concrete structure that may have once been a weir or lip for a former road crossing. The agent observed that Kahanaiki Gulch widened from Kahanaiki C to</p>





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				<p>approximately 13 feet wide and 3 feet deep east of the concrete structure Kahanaiki B and expanded further to 22 feet wide and 6.5 feet deep west of Kahanaiki B. Similar to the west side of Kahanaiki C, the agent observed irregularly-shaped boulders without apparent staining on both sides of Kahanaiki B that were not present in the surrounding area, suggesting infrequent flows of high velocity in Kahanaiki Gulch at Kahanaiki B. The agent also observed that the boulders were interspersed with fine sediment covered in dead leaves and other small vegetative debris. The presence of small vegetative debris in the channel suggests that flow had not occurred recently prior to the site visits, which is not unusual for streams with less than perennial flow during the dry season in Hawaii. The agent also observed that while branches of Christmas berry growing outside the channel have created a thicket above the channel, there is no vegetation rooted within the channel. The lack of rooted vegetation in the channel, including herbaceous vegetation, suggests that flow would occur in the channel with sufficient frequency to erode even fast-growing species such as guinea grass (<i>Urochloa maxima</i>, FAC), which is present in the surrounding area. However, the lack of vegetation rooted in the channel taken in context with the irregularly-shaped boulders and presence of fine debris indicates that flow would be unlikely to occur perennially or intermittently.</p> <p>At the western end of the AOR, the agent observed that the existing road crossing at Kahanaiki A is over a 14-foot wide concrete box culvert and two PVC pipes end at the channel east of the culvert. In the October 2020 site visit, the agent did not observe any ponded water in the channel or the culvert. The other 8-inch diameter pipe was not observed to discharge water during either site visit. In personal communication with the agent, Wes Nohara of the Soil and Water Conservation District stated that the 8-inch diameter pipe had previously conveyed water from the Honokohau Ditch to a reservoir northwest of the Study Area, but following the abandonment of agriculture in the AOR the 8-inch diameter pipe was no longer in use. Neither the agent nor Mr. Nohara knew the source of the smaller PVC pipe. The agent observed 100% absolute cover of herbaceous vegetation in Kahanaiki A east of the culvert, but that trees in the surrounding area, including koa haole (<i>Leucaena leucocephala</i>, UPL) and kukui (<i>Aleurites moluccanus</i>, FACU) but did not appear to be rooted within the channel. With the exception of the standing water, the section of Kahanaiki A west of the culvert crossing appeared similar to the section of Kahanaiki B west of the concrete structure: irregularly-shaped boulders without a consistent horizontal line or moss, interspersed with small vegetative debris, absent of rooted vegetation, contained within approximately 3-foot high banks. In summary, in both the July and October 2020 site visits to Kahanaiki Gulch, the agent observed some indicators of at least occasional flow, including exposed</p>



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				<p>boulders and a lack of rooted vegetation in the channel, and other indicators of infrequent flow, such as the presence of small vegetative debris in the channel.</p> <p>The feature referred to as Unnamed Gulch originates 1,335 feet above sea level at the eastern end of the AOR and runs east to west parallel to and approximately 830 feet south of Kahanaiki Gulch. The three sections of Unnamed Gulch within the AOR are referred to as Unnamed A at the west end of the AOR at lower elevation, Unnamed B in the center, and Unnamed C at the east end of the AOR and higher elevation. Since all three of the sections of Unnamed Gulch currently have existing or former crossings within the footprint of the feature, the Unnamed Gulch was examined on both sides of all three crossings. In an email dated 27 May 2021, the agent clarified that there was no channel observed at the Unnamed C crossing. Regarding Unnamed B, at the time of the July 2020 site visit, the agent observed 100% absolute cover of herbaceous and woody vegetation on both sides of the dirt crossing at Unnamed B and did not observe the bed and bank of a channel. However, during the 19 October 2020 site visit following a wildfire that partially burned the area containing Unnamed B and A, the agent observed an approximately 3-foot wide by 3-foot deep channel in the dirt substrate west of the dirt crossing at Unnamed B. Similar to Unnamed B, during both site visits (i.e. before and after the wildfire), the agent did not observe a channel east Unnamed A but observed that Unnamed A split into two channels. Like Pulepule A, the agent delineated the two channels by the reduced percent absolute cover of herbaceous vegetation in the channel in comparison to the percent cover in the surrounding area and the absence of trees in the channel. The agent observed that the south channel ranged from 3.5 to 4.8 feet wide along 12 linear feet and the north channel ranged from 3.5 to 9.5 feet wide along 46 linear feet. Additionally, while no culverts were observed at the Unnamed C or B crossings, the agent observed a 24-inch diameter culvert underneath the existing road at Unnamed A. In summary, in both the July and October 2020 site visits, the agent observed weak or absent channel morphology, a lack of flow, and a lack of indicators of frequent flow in the Unnamed Gulch.</p> <p>Mahinahina Gulch begins approximately 2,330 feet in elevation east of the AOR and crosses the AOR once at the southern edge of the AOR at an existing concrete triple-culvert crossing. The agent observed that Mahinahina Gulch is approximately 65 feet wide and 10 feet deep with well-defined bed and bank in the project area. Similar to Kahanaiki B and C, the agent observed cobbles and boulders exposed within the channel that were not observed outside the channel, indicating at least occasional flow. In an email dated 27 May 2021, the agent clarified that, similar to Pulepule A and Unnamed A, the agent observed that the channel at Mahinahina</p>





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				<p>Gulch had less rooted herbaceous vegetation in the channel in contrast to the surrounding area: approximately 20 % absolute cover of guinea grass was rooted in the channel in contrast to 90% absolute cover of guinea grass in the surrounding area. Additionally, trees rooted in the surrounding area, including koa haole on the east side and kukui and java plum on the west side of the crossing, did not appear to be rooted within Mahinahina Gulch. In summary, in both the July and October 2020 site visits, the agent observed weak or absent channel morphology, a lack of flow, and a lack of indicators of frequent flow in Mahinahina Gulch.</p> <p>Photographs provided with the delineation report are consistent with the consultant’s characterization summary of all four features within the AOR, including exposed irregularly-shaped boulders, vegetation rooted in parts of the substrate, and discontinuous bed and bank. None of the photographs showed active flow in the any of the four features within the AOR.</p> <p>The Corps has concluded that Pulepule Gulch, Kahanaiki Gulch, Mahinahina Gulch, and an Unnamed Gulch are all determined not to be tributaries based on the information above. The four features in the AOR are all ephemeral features (b)(3) that do not contribute surface water flow to a water identified as an (a)(1) water in a typical year either directly or through one or more waters identified in (a)(2),(3) or (4) of the NWPR. In accordance with the NWPR, ephemeral, (b)(3), waters are not Waters of the U.S. and therefore not jurisdictional.</p>

**III. SUPPORTING INFORMATION**

**A. Select/enter all resources** that were used to aid in this determination and attach data/maps to this document and/or references/citations in the administrative record, as appropriate.

- Information submitted by, or on behalf of, the applicant/consultant: [Report, titled “Kahana Solar Project Draft Delineation of Wetlands and Other Waters of the United States” \(Tetra Tech, Inc., dated February 2021\)](#)

This information **is and is not** sufficient for purposes of this AJD.

Rationale: [Certain information and data presented in the report is considered sufficient for substantiating the flow characteristics of the aquatic features located in the JD review area, presence/absence of wetlands, and whether a hydrologic surface connection in a typical year exists to an \(a\)\(1\) water. However, the report contains some errors and data gaps as well as statements that are not entirely congruent with the NWPR. While these deficiencies were noted by the USACE, they did not have a bearing on the empirical data and other information that the USACE considered and relied upon in determining the jurisdictional status of the aquatic features within the JD review area.](#)

- Data sheets prepared by the Corps: [Title\(s\) and/or date\(s\).](#)
- Photographs: [Aerial and Other: Aerial photographs acquired from Google Earth Pro. Photographs are included in the agent’s February 2021 delineation report.](#)
- Corps site visit(s) conducted on: [Date\(s\).](#)



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Previous Jurisdictional Determinations (AJDs or PJDs): The Corps reviewed the ORM database and found that in POH-2018-00106 (West Maui Water Source Development Project), a NWP 12 under the 2017 NWPs verified on 16 August 2018, the Corps determined that a portion of Kahanaiki Gulch within the subject AOR was an ephemeral feature. West outside the AOR, Pulepule Gulch drains into Kahanaiki Gulch which drains to Kahana Stream. The two projects listed in ORM for Kahana Stream were POH-2005-00132 (Replace Kahananui Bridge Lahaina Maui), a verification under NWPs 12, 14, and 33 issued on 20 April 2005, and POH-2020-00070 (DPW Maui, Maintenance at Kahana Stream, Maui, HI TMK: (2) 4-3-019:888), a No Permit Required Letter based on an activity that is not regulated by the Corps. Neither POH-2005-00132 nor POH-2020-00070 included a determination of the flow regime of Kahana Stream in the Aquatic Resources tab in ORM.

Antecedent Precipitation Tool: provide detailed discussion in Section III.B.

USDA NRCS Soil Survey: in delineation report and from the SSURGO data layer for Google Earth Pro and NRCS Web Soil Survey: As shown in the February 2021 resource delineation report, soils in the main part of the AOR are mapped as seven series. A small portion of flat parts of the AOR in Areas 1 and 2 on the eastern edge of the AOR are mapped as Olelo silty clay, 15 to 50 percent slopes. The remainder of the flat parts of Areas 1 through 4 are split between a mix of Alaeloa silty clay 7 to 15 percent slopes and Alaeloa silty clay 15 – 35 percent slopes on the east half of the areas and a mix of Kahana silty clay, 3 to 7 percent slopes, and Kahana silty clay, 7 to 15 percent slopes on the west half of the four Areas. All three series, Olelo and Alaeloa are in the Ultisol soil order. The Ultisol soil order is characterized by a subsurface clay layer, but does not necessarily indicate the presence or absence of hydric soils. The Kahana series is in the Inceptisol soil order, but similar to the Olelo and Alaeloa series, the Kahana series is characterized by the accumulation of clay into subsurface (37 cm below surface and deeper) layers. None of the soil layers for the Olelo, Alaeloa, and Kahana soils series as shown in the NRCS SSURGO data layer are characterized as gleyed. The lack of gleying in soils profiles can indicate the lack of long-term presence of water needed to achieve anaerobic conditions. The tops of the gulches in the four former pineapple field Areas and in the portions of the four features that are within the AOR are composed of two soil series called Rough broken and stony land and Rough mountainous land. Rough broken and stony land is classified as part of the Inceptisol soil order while Rough mountainous land is classified as part of the Entisol soil order, indicating minimal and no soil development, respectively. Neither of the two soils series in the four gulches include gleyed layers. The geomorphic position of both Rough broken and stony land and Rough mountainous land is described as “gulches/Backslope”. Reflecting the steep slope and geomorphic position in the NRCS soils series descriptions, the hydraulic rating for all soil series in the AOR are listed as well drained with a Hydric Rating of “No”, indicating that none of the soils series are known hydric soils.

USFWS NWI maps: [data layer for Google Earth Pro](#)

USGS topographic maps: Earth Point Topo Map data layer for Google Earth Pro. The AOR consists of a series of gently sloping hills separated by ravine-like valleys. Most of the AOR has a 0 – 15% slope from southeast to north west with some areas greater than 15%. Based on the terrain data layer for Google Earth Pro, the elevation from the east edge to the west edge of the main portion of the AOR, which is the portion that overlaps the four features, decreases by approximately 610 feet, with the center of the main section AOR at an elevation of approximately 879 feet above sea level. The road continues west past the end of the main part of the AOR to end near the Kapalua Airport at approximately 80 feet above sea level. Within the AOR, water flows along with the change in slope from east to west toward the Pacific Ocean.

**Other data sources used to aid in this determination:**

Data Source (select)	Name and/or date and other relevant information
USGS Sources	USGS Stream Gauges: In the February 2021 delineation report, the agent stated that there are no active USGS stream gauges on any of the channels within or outside of the AOR. The nearest USGS gauge (number 16623500) is located approximately 1.82 miles northwest of the AOR on Kaopala Gulch, a separate neighboring channel north of and parallel to Kahana Gulch. None of the features in the AOR flow into Kaopala Gulch. Data collected from field measurements at the gauge available online indicate that flow data was sporadically collected; the data at the gauge does not provide a continuous reference from which to determine flow relative to the presence or absence of precipitation.



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Data Source (select)	Name and/or date and other relevant information
<a href="#">USDA Sources</a>	N/A.
<a href="#">NOAA Sources</a>	<a href="#">NOAA Daily Summaries precipitation web application.</a>
<a href="#">USACE Sources</a>	N/A.
<a href="#">Other state/local data (specify)</a>	<a href="#">DLNR DAR mapping layer</a>
<a href="#">EPA sources (specify)</a>	<a href="#">EPA Waters GeoViewer Application</a>

**B. Typical year assessment(s):** The Corps, Honolulu District used the Antecedent Precipitation Tool (APT) to understand whether normal Typical Year conditions (i.e., precipitation levels within the normal periodic range) were present within the JD review area at the time that field assessments were completed for the area of review during the delineation report site visit dates of 1, 2, and 3 July 2020. The APT reports indicate that conditions were normal for July 1, 2, and 3, 2020 and drier than normal on 19 October 2020. As stated in the delineation report, according to the Online Rainfall Atlas of Hawai'i (Giambelluca et al. 2013), the area receives a mean annual rainfall of approximately 29.3 inches (754 millimeters [mm]) at the Kapalua Airport (west outside of the AOR) and approximately 72.1 inches (1,830 millimeters [mm]) at the higher elevations at the east end of the AOR. Rainfall is typically highest in December and January and lowest in June through September.

**C. Additional comments to support AJD:** According to USGS topographic EarthPoint data layer, also provided in the agent's February 2021 report, a Honokohau Tunnel, a feature consisting of tunnels at varying depths, also runs beneath the ground surface through the western portion of the AOR from south to north. Maui County tax maps refer to the tunnel system as Honolua Ditch. The tunnel system is referred to in the 2021 delineation report as the Honolua /Honokohau Ditch. Since the tunnel system is subsurface and would not be impacted by the proposed project, this AJD does not include a determination of whether Honolua Ditch is a water of the U.S. Additionally, remnant features of past agricultural use, including ditches and water reservoirs, are also scattered throughout the AOR. Aerial photos show one open reservoir within the AOR between Kahanaiki Gulch and the Unnamed Gulch. Five additional reservoirs are present outside but in close proximity to the AOR. None of the reservoirs visible on the aerial photos connect to the four features within the AOR. In recent aerial photography (October 21, 2020), four of the six water reservoirs had been partially or completely drained. Since the reservoirs appear to be isolated and constructed in uplands, the reservoirs are considered to be uplands and are not discussed further in this AJD.