

**APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): December 16, 2022

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento District, E&H Land LTD. Property, SPK-2017-00109-UO

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **Utah** County/parish/borough: **Davis County** City: **Farmington**

Center coordinates of site (lat/long in degree decimal format): Lat. **40.985608°**, Long. **-111.915438°**

Universal Transverse Mercator: **12 422992.99 4537562.97**

Name of nearest waterbody: **Shepard Creek**

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Great Salt Lake**

Name of watershed or Hydrologic Unit Code (HUC): **Lower Weber, 16020102**

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form:

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date: **December 16, 2022**

Field Determination. Date(s): **August 24, 2021**

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: **655** linear feet, wide, and/or **0.2** acres.

Wetlands: **9.01** acres.

c. Limits (boundaries) of jurisdiction based on: OHWM and 1987 Delineation Manual

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):³

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs:

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**

Identify TNW:

Summarize rationale supporting determination:

2. **Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

(i) **General Area Conditions:**

Watershed size: 1,260 acres
Drainage area: 1,260 acres
Average annual rainfall: 22 inches
Average annual snowfall: 50 inches

(ii) **Physical Characteristics:**

(a) Relationship with TNW:

- Tributary flows directly into TNW.
 Tributary flows through 1 tributaries before entering TNW.

Project waters are 25 river miles from TNW.
Project waters are 1 (or less) river miles from RPW.
Project waters are 2-5 aerial (straight) miles from TNW.
Project waters are 1 (or less) aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: **N/A. The waters are wholly within the state of Utah.**

Identify flow route to TNW⁵:
Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):

Tributary is: Natural

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

- Artificial (man-made). Explain:
- Manipulated (man-altered). Explain: **Some sections are channelized as the creek passes through developed areas.**

Tributary properties with respect to top of bank (estimate):

Average width: 6 feet
 Average depth: 3 feet
 Average side slopes: **2:1**

Primary tributary substrate composition (check all that apply):

- | | | |
|---|---|-----------------------------------|
| <input checked="" type="checkbox"/> Silts | <input type="checkbox"/> Sands | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles | <input checked="" type="checkbox"/> Gravel | <input type="checkbox"/> Muck |
| <input type="checkbox"/> Bedrock | <input checked="" type="checkbox"/> Vegetation. Type/% cover: | |
| <input type="checkbox"/> Other. Explain: | | |

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: **Banks are highly incised in areas leading to instability.**

Presence of run/riffle/pool complexes. Explain: **None**

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): <1%

(c) Flow:

Tributary provides for: **Perennial**

Estimate average number of flow events in review area/year: **1**

Describe flow regime: **Shepard Creek maintains above-surface baseflow throughout the year with punctuated high water levels in response to storm events and artificial irrigation.**

Other information on duration and volume:

Surface flow is: **Discrete and Confined**. Characteristics: **Mostly confined to channel, bed and banks; OHWM.**

Subsurface flow: **Yes**. Explain findings: The shallow subsurface flow gradient in this area is in the direction of the Great Salt Lake, which is located approximately 1-2 miles away.

Dye (or other) test performed:

Tributary has (check all that apply):

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Bed and banks | <input checked="" type="checkbox"/> OHWM ⁶ (check all indicators that apply): | <input checked="" type="checkbox"/> the presence of litter and debris |
| <input checked="" type="checkbox"/> clear, natural line impressed on the bank | <input checked="" type="checkbox"/> changes in the character of soil | <input checked="" type="checkbox"/> destruction of terrestrial vegetation |
| <input checked="" type="checkbox"/> shelving | <input checked="" type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> the presence of wrack line |
| <input checked="" type="checkbox"/> leaf litter disturbed or washed away | <input checked="" type="checkbox"/> sediment deposition | <input checked="" type="checkbox"/> sediment sorting |
| <input checked="" type="checkbox"/> water staining | <input type="checkbox"/> other (list): | <input checked="" type="checkbox"/> scour |
| <input type="checkbox"/> Discontinuous OHWM. ⁷ Explain: | | <input type="checkbox"/> multiple observed or predicted flow events |
| | | <input checked="" type="checkbox"/> abrupt change in plant community |

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

- | | |
|--|--|
| <input type="checkbox"/> High Tide Line indicated by: | <input type="checkbox"/> Mean High Water Mark indicated by: |
| <input type="checkbox"/> oil or scum line along shore objects | <input type="checkbox"/> survey to available datum; |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings; |
| <input type="checkbox"/> physical markings/characteristics | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges | |
| <input type="checkbox"/> other (list): | |

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: **Water is clear during normal flow. Watershed is a mix of developed lands and agricultural areas.**

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

Identify specific pollutants, if known: **Likely to be high in nutrients due to agriculture practices and adjacent residential developments.**

(iv) Biological Characteristics. Channel supports (check all that apply):

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics: **Wet meadow wetlands along both sides directly abutting Shepard Creek.**
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings: **Habitat for macroinvertebrates and wildlife.**

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: **9.01** acres

Wetland type. Explain: **Palustrine Emergent**

Wetland quality. Explain: **Wetlands are medium quality due to their position directly abutting Shepard Creek and their wildlife habitat potential. Impairments include invasive species and water quality impacts from adjacent agriculture and residential development.**

Project wetlands cross or serve as state boundaries. Explain: No. **The waters are wholly within the state of Utah.**

(b) General Flow Relationship with Non-TNW:

Flow is: **Perennial Flow**. Explain: **Wetlands on the site appear to have hydrology through most of the year.**

Surface flow is: **Overland sheetflow**

Characteristics: **Hydrologic movement through the wetlands appears to be mainly through sheet flow and shallow subsurface flow.**

Subsurface flow: **Unknown**. Explain findings:

- Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting: **A single contiguous palustrine emergent wetland bisected by Shepard Creek comprises the site's aquatic resources.**

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **2-5** river miles from TNW.

Project waters are **2-5** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters.**

Estimate approximate location of wetland as within the **5 - 10-year** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: **Water color is clear, water quality is likely high in nutrients from agricultural practices.**

Identify specific pollutants, if known:

(iii) Biological Characteristics. Wetland supports (check all that apply):

- Riparian buffer. Characteristics (type, average width): **50 feet**
- Vegetation type/percent cover. Explain:
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings: **Habitat for invertebrates, small mammals, birds, etc.**

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **1**

Approximately **9.01** acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
Wetland (Y)	9.01		

Summarize overall biological, chemical and physical functions being performed: **The abutting wetlands are providing habitat for wildlife and invertebrates as well as flood attenuation during high water events along Shepard Creek. Additional functions include, nutrient uptake, removal of sediments, and improvement of water quality.**

C. SIGNIFICANT NEXUS DETERMINATION: N/A

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
 - TNWs: linear feet, wide, Or acres.
 - Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: **Shepard Creek carries above-surface base flow throughout most of the year.**
- Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: **655** linear feet 6 feet wide (average width).
 - Other non-wetland waters: acres.
- Identify type(s) of waters:

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet, wide.
 - Other non-wetland waters: acres.
- Identify type(s) of waters:

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
 - Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **Wetland 1 directly abut Shepard Creek as illustrated in the wetland delineation maps.**
 - Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

Provide acreage estimates for jurisdictional wetlands in the review area: **9.01** acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- which are or could be used by interstate or foreign travelers for recreational or other purposes.

⁸See Footnote # 3.

⁹ To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain:
- Other factors. Explain:

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet, wide.
- Other non-wetland waters: acres.
 Identify type(s) of waters:
- Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, wide.
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, wide.
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: "Aquatic Resources Delineation Report E&H Land LTD. Property" prepared by Kagel Environmental, LLC dated May 13, 2021.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office partially concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: 10/21/2020, 11/2/2020, 11/2/2022, 11/3/2020 and 10/12/2022
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
 - USGS NHD data. **National Hydrography Dataset Flowlines – Large Scale from National Layers in the National Regulatory Viewer for the South Pacific Division. Retrieved December 12, 2022.**
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: **1:24K; Farmington**
- USDA Natural Resources Conservation Service Soil Survey. Citation: Davis County, Utah.
- National wetlands inventory map(s). Cite name: **US Fish and Wildlife Service Wetland Mapper – National Layer in the National Regulatory Viewer for the South Pacific Division. Retrieved December 12, 2022.**
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): **GoogleEarth 7.3.3.7692. (Historic Aerial Imagery). Davis County, Utah. Latitude 40.985986°, Longitude 111.915329°, Retrieved December 12, 2022.**
 or Other (Name & Date): **USACE site inspection done on August 24, 2021 and photos included in the aquatic resources report by Kagel Environmental, LLC**
- Previous determination(s). File no. and date of response letter: **Approved Jurisdictional Determination (AJD) verified by USACE on September 6, 2017 evaluated under the same SPK number as the current request**

(SPK-2017-00109-UO) for a 61-acre site. Approximately 9.96 acres of aquatic resources consisting of 9.79 acres of freshwater wet meadow , 0.14 acre/753 linea feet of perennial strea, and 0.03 acre/277 linear feet of itermittent ditch were determined to be regulated under Section 404 of the Clean Water Act.

- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify): **Lidar data Layers in the National Regulatory Viewer for the South Pacific Division. Retrieved December 12, 2022.**

B. ADDITIONAL COMMENTS TO SUPPORT JD:

The AJD verified in 2017 included an evaluation of four wetlands identified as Wetlands 1-4 in the AR prepared by Wetland Resources, Inc. Wetlands 1 and 2 were documented to directly abut Shepard Creek and wetlands 3 and 4 did not directly abut the creek but that were connected via sheet flow and/or discrete connection. Wetlands 3 and 4 were not identified in the current AR report prepared by Kagel Environmental, LLC or documented by Corps staff during a site inspection done on August 24, 2021. Changes at this site can be attributed to drop on the water table as a result of land use changes due to development, including new roads, residential, and commercial developments.

The original request and aquatic resources report submitted by Kagel Environmental, LLC accounted for approximately 2.13 acres of aquatic resources within the study area. The Corps determined that the aquatic resources within the study area extend past the boundaries described and depicted in the AR report. A revised aquatic resource aquatic resource map was prepared by Corps staff based on aquatic resource signatures documented on aerial records between 2011 and 2022 (AJD Attachment 1), review of historic remote sensing information (AJD Attachment 2), and the procedure established in Chapter 5 of the Arid West Regional Supplement (AWRS) for problematic or difficult situations. The AR area within the study area was revised from 2.13 acres to 9.21 acres, comprised of 9.01 acres of wetlands and 0.2 acres (655 linear feet) of stream channel.

The hydrology parameter was re-envaulted by Corps staff for sample points 11, 12, 13, 14, 25, 26, 31, 33, 34, 35, 46, 47, and 48. Of these sample points, the hydrology parameter was met in sample points 13, 25, 47, and 48 based on a review of historic aerial photographs of the site showing that the B7 indicator (inundation visible on aerial imagery) was met. Revised data sheets (AJD Attachment 3) were completed by Corps staff for sample points 13, 25, 47, and 48. These sample points were further evaluated under Chapter 5 of the AWRS for soils that meet the hydric soil definition may not exhibit any of the indicators.

Per the procedure in Chapter 5 of the AWRS for Soils that are thought to meet the definition of a hydric soil but do not exhibit any of the indicators. This procedure can be used only where indicators of hydrophytic vegetation and wetland hydrology are present but indicators of hydric soil are not evident.

- a) Procedure: Verify that one or more indicators of hydrophytic vegetation are present or that the vegetation is disturbed or problematic.

The datasheet prepared by Kagel Environmental, LLC indicates that hydrophytic vegetation is present within these sample points.

- b) Procedure: Verify that at least one primary or two secondary indicators of wetland hydrology are present or that indicators are absent due to disturbance or other factors.

The hydrology parameter is met based on aerial review of the site that shows the B7 indicator (inundation visible on aerial imagery).

- c) Procedure: Verify that the area is in a landscape position that is likely to collect or concentrate water.

The datasheet for sample points 13, 25, 47, and 48 prepared by Kagel Environmental, LLC indicates a concave local relief with a slope between 0 and 3%. Therefore, these sites are located in a level or nearly level area.

- d) Procedure: Use one or more of the following approaches to determine whether the soil is hydric. Determine whether one or more of the following problematic soil situations is present: Moderately to Very Strongly Alkaline Soils, Volcanic Ash, Vegetated Sand and Gravel Bars within Floodplains, Recently Developed Wetlands, or Seasonally Pondered Soils.

The datasheet for sample points 13, 25, 47, and 48 prepared by Kagel Environmental, LLC indicates the soil series mapped for these sample points is Ironton-Draper complex.

According to the Web Soil Survey, https://soilseries.sc.egov.usda.gov/OSD_Docs/I/IRONTON.html (AJD Attachment 4), this soil is considered moderately alkaline (7.9 pH or higher). Although the soil in sample points 13, 25, 47, and 48 did not exhibit any of the soil indicators, these sites were determined to support hydric soils due to the high pH that would not allow for the readily formation of redox concentrations. Based on this analysis, the Corps has determined that sample points 13, 25, 47, and 48 meet the vegetation, soils, and hydrology parameters and are considered wetlands.

Sample points 15 and 27 were evaluated under Chapter 5 of the AWRS of the manual to determine whether wetland hydrology is present on these sites since indicators of hydrophytic vegetation and hydric soil are present but hydrology indicators are lacking due to normal variations in rainfall or runoff, human activities that destroy hydrology indicators, and other factors. The aerial review did not show inundation at these sites between 2011 and 2022. However, most of the records evaluated during historic aerial photograph review were taken during the dry season. For this reason, Chapter 5 of the AWRS was used to make a determination for the hydrology parameter.

- a) Procedure: Verify that indicators of hydrophytic vegetation and hydric soil are present, or are absent due to disturbance or other problem situations.

The datasheet prepared by Kagel Environmental, LLC indicates both hydrophytic vegetation and hydric soil are present within sample points 15 and 27.

- b) Procedure: Verify that the site is in a landscape position that is likely to collect or concentrate water.

The datasheet for sample points 15 and 27 prepared by Kagel Environmental, LLC indicates a concave local relief with a slope between 0 and 3%. Therefore, these sites are located in a level or nearly level area.

- c) Procedure: Use one or more of the following approaches to determine whether wetland hydrology is present and the site is a wetland.

Site visits during the dry season: The site was inspected by Kagel Environmental, LLC on November 10, 2020. The site visit occurred during the normal annual "dry season." Chapter 5 of the AWRS indicates that if the site visit occurred during the dry season on a site that contains hydric soils and hydrophytic vegetation and no evidence of hydrologic manipulation (e.g., no drainage ditches, dams, levees, water diversions, etc.), then consider the site to be a wetland.

Drought years: A review of the Antecedent Precipitation Tool (AJD Attachment 5) Drought Severity Index indicates that the site was experiencing severe draught conditions during the consultant's inspection. In addition, the conditions at the time of the inspection were drier than normal. Chapter 5 of the AWRS indicates that if wetland hydrology indicators and hydric soils, no evidence of hydrologic manipulation (e.g., no drainage ditches, dams, levees, water diversions, etc.), and the region has been affected by drought, then the area should be identified as a wetland.

Reference sites: The report prepared by Kagel Consultants, LLC indicates that that both sites 15 and 27 support hydrophytic vegetation and hydric soils.

Due to the close location and similarity of sample points 15 and 27, sites 9 and 31 have been used in the analysis as a reference point. Chapter 5 of the AWRS states that if indicators of hydric soil and wetland hydrology are present, the site may be considered to be a wetland if the landscape setting, topography, soils, and vegetation are substantially the same as those on nearby wetland reference areas. Therefore, sample points 15 and 27 were meet the hydrology parameter. Based this analysis, the Corps has determined that sample point 15 and 27 are wetlands.