APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers
IF THE RIGHT-CLICK OPERATED DROPDOWNS ARE NOT FUNCTIONING, CTRL+CLICK HERE
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): January 14, 2020

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento District, **Shasta Lake Commercial Center Project**, **SPK-2019-00856**

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: **California** County: **Shasta County** City: **Redding**
Center coordinates of site (lat/long in degree decimal format): Lat. **40.68170**°, Long. **-122.35157**°
Universal Transverse Mercator: **10 554795.38 4503626.07**
Name of nearest waterbody: **Moody Creek**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Moody Creek**
Name of watershed or Hydrologic Unit Code (HUC): **Clear Creek-Sacramento River, 18020154**
☒ 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: January 14, 2019
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **appear to be 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 and are not** "*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 waters[2] (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: 1,471 linear feet, and 0.27 acres.
   Wetlands: 0.37 acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Established by OHWM**
   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: A total of 0.15 acre of ditches were identified in the November 26, 2019, *Draft Delineation of Waters of the United States*, prepared by Gallaway Enterprises. EX01, EX02, EX03, EX04, EX05, and EX06 are constructed drainage ditches that are approximately six to ten feet wide and approximately 998 linear feet long. The ditch appears to be constructed wholly in and draining only uplands. The ditch has ephemeral flow which occur from precipitation events. The following aquatic resources are generally not regulated by the Corps of Engineers as it is a manmade ditch created solely in uplands and draining only uplands that do not carry a

[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.

relatively permanent flow of water. EX01, EX02, EX03, EX04, EX05, and EX06 ditches (including roadside ditches) are excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

WF01, is an isolated wetland. Based on the attached Lidar map, WF01 is in a depression with no topographical break. With no hydrologic connection to any other waters. Based on a February 23, 2017 aerial photo the hydrology of the wetland appears to stay within the confines of WF01. Based on the California Data Exchange Center, this area received a cumulative amount approximately 8.29 inches of precipitation within the last seven days of the photo. Therefore, we have determined that WF01 is an isolated, intrastate water with no interstate or foreign commerce connection.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

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: The site does not support a TNW.

Summarize rationale supporting determination: N/A

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 waterbody[4] 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: 438,802 **acres**
Drainage area: 2,718 **acres**
Average annual rainfall: 65.68 inches
Average annual snowfall: 0.4 inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☒ Tributary flows through **3** tributaries before entering TNW.

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

Project waters are **15-20** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **15-20** 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:

Identify flow route to TNW[5]: Moody Creek is the RPW within the study area, which flows south into West fork Stillwater Creek, which flows south into Stillwater Creek, and flows into the Sacramento River, which is a TNW.
Tributary stream order, if known: Moody Creek is a stream order 2, West Fork Stillwater Creek is a Stream order 3, Stillwater Creek is a stream order 4, and the Sacramento River is a stream order 6.

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☒ Natural
☐ Artificial (man-made). Explain:
☐ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):
Average width: Varies, 20-30 feet
Average depth: Varies
Average side slopes: **2:1.**

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☒ Cobbles	☒ Gravel	☐ Muck
☐ Bedrock	☒ Vegetation. Type/% cover: Varies	
☐ Other. Explain:		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:
Presence of run/riffle/pool complexes. Explain: None
Tributary geometry: **Meandering**
Tributary gradient (approximate average slope): Gradient varies

(c) Flow:
Tributary provides for: **Seasonal flow**
Estimate average number of flow events in review area/year: Varies

Other information on duration and volume: Based on previous delineation report on SPK-2005-00827, Moody Creek flows approximately 6-8 months of the year.

-

Surface flow is: **Confined.** Characteristics: **Flow typically stays within banks.**

Subsurface flow: **Unknown**. Explain findings:
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☒ Bed and banks
☒ OHWM[6] (check all indicators that apply):

☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☒ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☒ leaf litter disturbed or washed away	☒ scour
☒ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☒ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[7] Explain:

[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.
[6]A 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.
[7]Ibid.

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

☐ High Tide Line indicated by:
- ☐ oil or scum line along shore objects
- ☐ fine shell or debris deposits (foreshore)
- ☐ physical markings/characteristics
- ☐ tidal gauges
- ☐ other (list):

☐ Mean High Water Mark indicated by:
- ☐ survey to available datum;
- ☐ physical markings;
- ☐ vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: The tributaries within the watershed collect, retain, filter and more slowly release runoff from surrounding roads, housing, pastures, farms, and other surrounding land uses. Collection of runoff onto these wetlands and stream on the site reduces chemicals and other pollutants normally found in runoff water.

Identify specific pollutants, if known: Non-point source pollution from adjacent properties mainly comprised of agriculture land and residential roads.

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

☐ Riparian corridor. Characteristics (type, average width):
☐ Wetland fringe. Characteristics:
☒ Habitat for:
- ☐ Federally Listed species. Explain findings:
- ☐ Fish/spawn areas. Explain findings:
- ☒ Other environmentally-sensitive species. Although there is no potential habitat for federally listed species, the Lower reached provides potential habitat for state listed western pond turtle.
- ☐ Aquatic/wildlife diversity. Explain findings:

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: acres
- Wetland type. Explain:
- Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain:

Surface flow is**:** **Pick List**
- Characteristics:

Subsurface flow: **Pick List**. Explain findings:
- ☐ Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

☐ Directly abutting
☐ Not directly abutting
- ☐ Discrete wetland hydrologic connection. Explain:
- ☐ Ecological connection. Explain:
- ☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List.**
Estimate approximate location of wetland as within the **Pick List** 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:

Identify specific pollutants, if known:

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

☐ Riparian buffer. Characteristics (type, average width):
☐ 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:

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

All wetland(s) being considered in the cumulative analysis: **Pick List**
Approximately acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

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:

☒ 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: OW01, OW02, OW03, and OW04 all have observed flow on aerial photography dated April 15, 2015, and May 24, 2017. Based on previous delineation report on SPK-2005-00827, Moody Creek flows approximately 6-8 months of the year. The applicant has also stated that Moody Creek is an intermittent stream.

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

☒ Tributary waters: **OW01, OW02, OW02, and OW04, which are a total of 0.27 acre (473 linear feet).**

☐ Other non-wetland waters: acres.

Identify type(s) of waters:

3. Non-RPWs[8] 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:

☐ 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: 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 jurisidictional. 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]

[8]See 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.*

☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ 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: **0.1** acre.

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: *Draft Delineation of Waters of the United States*, dated November 26, 2019.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☒ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps:
☐ Corps navigable waters' study:
☒ U.S. Geological Survey Hydrologic Atlas: 18020154
☒ USGS NHD data.
☒ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: **1:24K; Project City**
☐ USDA Natural Resources Conservation Service Soil Survey. Citation:
☐ National wetlands inventory map(s). Cite name:
☐ State/Local wetland inventory map(s):
☐ FEMA/FIRM maps:
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): Digital Globe aerial photos, dated April 8, 2018, and February 23, 2017. Google Earth aerial photos dated April 15, 2015, and May 24, 2017. Aerial 1993, and 1969 photos from www.historicalaerials.com.
or ☐ Other (Name & Date):
☒ Previous determination(s). File no. and date of response letter: SPK-2005-00827, dated April 23, 2008.
☐ Applicable/supporting case law:

☐ Applicable/supporting scientific literature:
☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD:

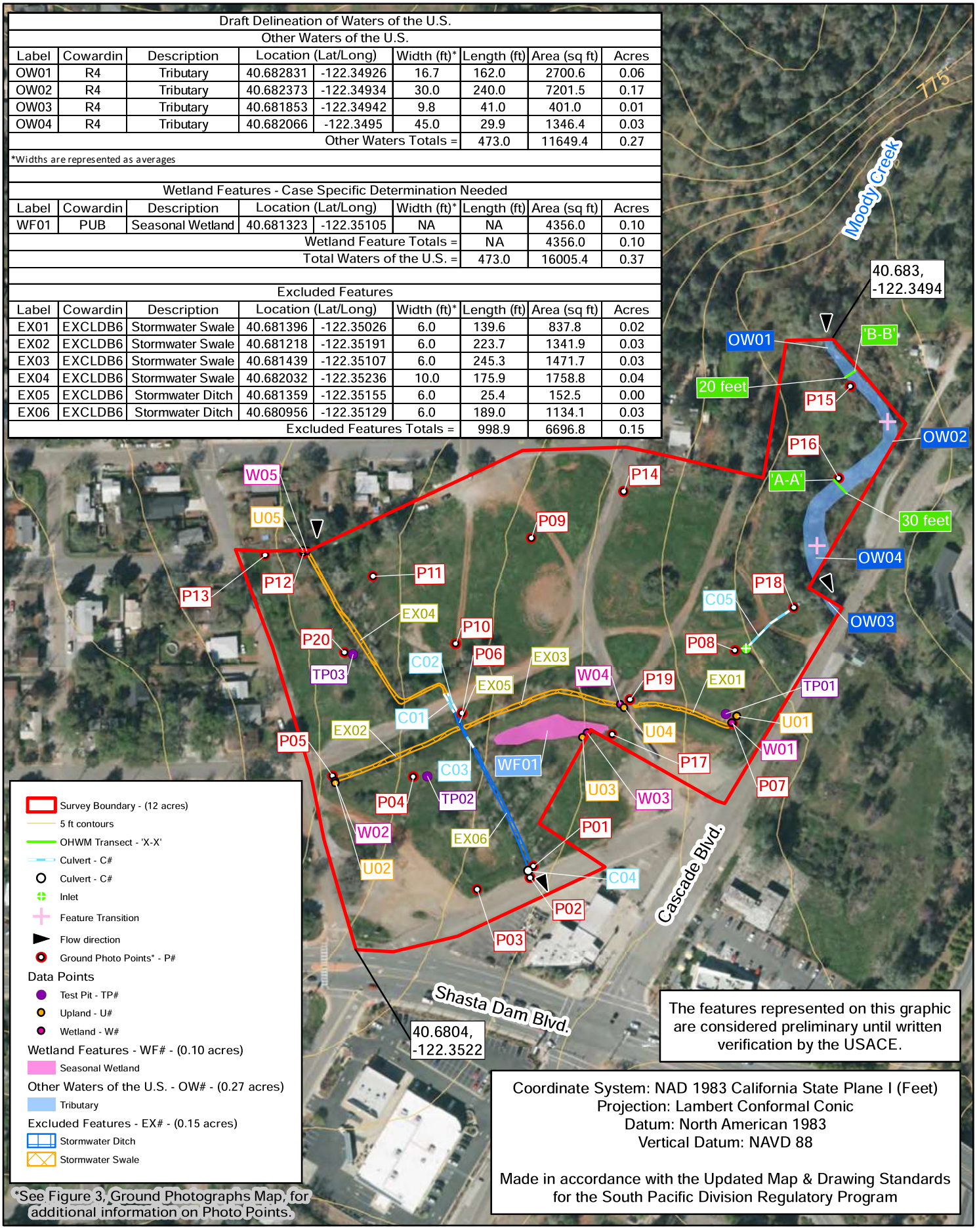
OW01 (0.06 acre), OW02 (0.17 acre), OW03 (0.01 acre), and OW04 (0.03 acre) are relatively permanent waters that flow indirectly into the Sacramento River (Traditional Navigable Water), therefore these waters are waters of the United States.

WF01 (0.1 acre) is an isolated, intrastate water with no interstate or foreign commerce connection.

EX01 (0.02 acre), EX02 (0.03 acre), EX03 (0.03 acre), EX04 0.04 (acre), EX05 (0.003 acre), and EX06 (0.03 acre) ditches (including roadside ditches) are excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water, therefore, these waters are not jurisdictional based on the November 13, 1986, Federal Register (Page 41217), Part 328(a).

REFERENCES:

1. **Regulatory Programs of the Corps of Engineers, as amended (33 CFR 328), dated November 13, 1986.**
2. **Regulatory Guidance Letter 16-01 on Jurisdictional Determinations effective October, 2016.**
3. **Clean Water Act Jurisdiction Memorandum, dated December 2, 2008.**
4. **U.S. Army Corps of Engineers Jurisdictional Determinations Form Instructional Guidebook, dated May 30, 2007.**



Draft Delineation of Waters of the U.S.

Other Waters of the U.S.

Label	Cowardin	Description	Location (Lat/Long)		Width (ft)*	Length (ft)	Area (sq ft)	Acres
OW01	R4	Tributary	40.682831	-122.34926	16.7	162.0	2700.6	0.06
OW02	R4	Tributary	40.682373	-122.34934	30.0	240.0	7201.5	0.17
OW03	R4	Tributary	40.681853	-122.34942	9.8	41.0	401.0	0.01
OW04	R4	Tributary	40.682066	-122.3495	45.0	29.9	1346.4	0.03
				Other Waters Totals =		473.0	11649.4	0.27

*Widths are represented as averages

Wetland Features - Case Specific Determination Needed

Label	Cowardin	Description	Location (Lat/Long)		Width (ft)*	Length (ft)	Area (sq ft)	Acres
WF01	PUB	Seasonal Wetland	40.681323	-122.35105	NA	NA	4356.0	0.10
				Wetland Feature Totals =		NA	4356.0	0.10
				Total Waters of the U.S. =		473.0	16005.4	0.37

Excluded Features

Label	Cowardin	Description	Location (Lat/Long)		Width (ft)*	Length (ft)	Area (sq ft)	Acres
EX01	EXCLDB6	Stormwater Swale	40.681396	-122.35026	6.0	139.6	837.8	0.02
EX02	EXCLDB6	Stormwater Swale	40.681218	-122.35191	6.0	223.7	1341.9	0.03
EX03	EXCLDB6	Stormwater Swale	40.681439	-122.35107	6.0	245.3	1471.7	0.03
EX04	EXCLDB6	Stormwater Swale	40.682032	-122.35236	10.0	175.9	1758.8	0.04
EX05	EXCLDB6	Stormwater Ditch	40.681359	-122.35155	6.0	25.4	152.5	0.00
EX06	EXCLDB6	Stormwater Ditch	40.680956	-122.35129	6.0	189.0	1134.1	0.03
				Excluded Features Totals =		998.9	6696.8	0.15

1:2,400 1 inch = 200 feet
0 50 100 Feet
Data Sources: ESRI, City of Redding 2016 SRTA (3/17/2016)
NORTH

City of Shasta Lake Commercial Center
Draft Delineation of Waters of the U.S.
Exhibit A

Map by: C. Davis and V. Birdseye
Delineation by: D. Machek and E. Gregg
GE: #17-168
gallaway ENTERPRISES
Map Date: 11/26/19

WETS Table

WETS Station: SHASTA DAM, CA								
Requested years: 1991 - 2020								
Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0.10 or more	Avg Snowfall
Jan	54.2	40.5	47.4	10.81	4.08	13.07	10	0.2
Feb	57.5	41.7	49.6	12.11	5.07	14.73	10	0.0
Mar	62.6	44.0	53.3	9.79	4.31	11.93	9	0.0
Apr	68.6	47.5	58.1	4.92	2.95	5.97	7	0.1
May	78.0	55.4	66.7	3.17	0.99	3.77	5	0.0
Jun	87.2	63.0	75.1	1.58	0.62	1.73	2	0.0
Jul	96.1	69.0	82.5	0.14	0.00	0.04	0	0.0
Aug	95.0	67.5	81.3	0.18	0.00	0.11	0	0.0
Sep	89.4	62.9	76.1	0.54	0.00	0.46	1	0.0
Oct	76.3	54.6	65.5	3.54	0.90	3.66	3	0.0
Nov	61.5	46.1	53.8	6.65	2.91	8.11	7	0.0
Dec	53.1	40.5	46.8	12.24	4.82	14.84	10	0.1
Annual:					49.34	74.40		
Average	73.3	52.7	63.0	-	-	-	-	-
Total	-	-	-	65.68			65	0.4

GROWING SEASON DATES			
Years with missing data:	24 deg = 4	28 deg = 5	32 deg = 2
Years with no occurrence:	24 deg = 26	28 deg = 21	32 deg = 2
Data years used:	24 deg = 26	28 deg = 25	32 deg = 28
Probability	24 F or higher	28 F or higher	32 F or higher
50 percent *	No occurrence	No occurrence	2/11 to 12/28: 320 days
70 percent *	No occurrence	No occurrence	1/29 to 1/11: 347 days
* Percent chance of the growing season occurring between the Beginning and Ending dates.			

STATS TABLE - total precipitation (inches)													
Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
1943	10.46	3.04	5.81	5.33	2.65	3.60	0.00	0.00	0.00	1.73	4.91	2.11	39.64
1944	6.11	14.74	2.82	3.71	1.52	4.80	0.00	0.44	0.00	4.58	9.97	8.89	57.58
1945	3.93	10.73	8.50	0.75	6.56	0.69	0.00	0.10	0.00	11.45	8.62	21.14	72.47
1946	4.98	3.71	3.29	0.96	1.59	0.00	1.07	0.00	0.06	0.94	8.53	5.12	30.25
1947	1.82	6.94	M13.02	1.05	0.93	5.08	0.25	0.35	0.11	11.88	1.13	2.43	44.99
1948	10.24	2.66	8.14	14.22	3.19	2.55	0.37	0.34	1.86	1.44	4.06	5.14	54.21
1949	1.26	7.69	19.36	0.14	3.21	0.09	T	0.00	0.15	0.02	M2.66	2.06	36.64
1950	14.01	4.61	5.15	1.56	M1.01	0.98	0.00	0.00	0.53	17.38	4.98	9.57	59.78

1951	10.13	9.48	2.47	2.36	3.68	0.00	0.00	0.03	0.03	4.51	12.19	19.74	64.62
1952	13.46	6.52	6.51	1.62	2.34	3.29	0.10	MT	0.20	0.42	4.54	24.52	63.52
1953	18.11	0.84	7.94	M4.50	3.94	1.85	0.00	0.65	0.27	2.22	9.42	3.18	52.92
1954	21.34	10.13	9.37	8.10	T	2.21	0.01	4.14	0.28	1.75	10.01	9.63	76.97
1955	6.32	2.59	0.95	7.04	0.09	0.02	0.06	0.00	0.36	0.73	11.38	33.98	63.52
1956	18.40	16.12	0.16	1.60	3.77	1.14	0.17	0.00	0.19	4.87	0.47	0.20	47.09
1957	8.57	15.18	7.31	4.34	5.29	0.07	0.00	0.00	6.14	8.45	5.75	10.18	71.28
1958	12.96	30.79	11.15	8.89	2.30	6.10	0.91	0.17	0.42	0.35	1.25	4.02	79.31
1959	25.86	13.19	4.72	4.99	0.28	0.05	0.00	0.23	7.87	0.03	0.05	2.78	60.05
1960	12.41	11.99	10.73	2.92	5.20	0.00	0.00	0.00	M0.00	0.53	8.29	13.04	65.11
1961	8.70	6.51	8.51	0.98	3.32	1.00	0.21	0.05	0.38	1.25	11.49	9.48	51.88
1962	4.35	20.77	9.11	0.82	0.41	0.07	0.00	1.19	1.52	10.92	3.62	6.82	59.60
1963	4.00	6.97	9.20	13.99	1.97	0.23	0.00	0.01	0.18	3.82	16.43	1.63	58.43
1964	8.78	0.17	2.99	0.34	1.00	1.41	0.10	0.00	0.27	4.41	14.67	30.49	64.63
1965	9.56	1.29	1.06	13.20	0.31	0.14	0.00	1.42	0.00	0.10	22.08	2.38	51.54
1966	13.42	9.01	3.81	1.87	0.00	0.07	0.00	0.20	0.37	0.00	16.44	12.07	57.26
1967	14.94	1.06	11.25	10.22	1.30	2.22	0.02	T	0.05	1.23	4.06	6.55	52.90
1968	10.36	11.48	5.93	0.43	2.82	0.50	0.00	2.64	0.11	4.18	5.36	16.40	60.21
1969	24.18	18.56	3.92	4.70	0.04	0.67	0.00	0.00	0.06	1.68	2.10	22.31	78.22
1970	34.13	3.79	4.04	0.20	0.26	2.01	0.00	0.00	0.02	3.80	25.72	16.40	90.37
1971	8.17	0.22	10.66	1.51	2.84	0.80	0.03	0.15	0.74	0.79	7.63	7.02	40.56
1972	6.86	3.65	5.36	5.32	2.58	1.56	0.00	0.08	1.42	4.52	13.36	6.58	51.29
1973	18.96	13.88	8.41	0.02	0.86	0.21	0.16	0.00	1.37		27.62	11.70	83.19
1974	15.96	4.56	19.02	5.83	0.46	0.57	4.03	0.25	0.00	3.16	2.82	9.24	65.90
1975	3.34	16.62	23.16	3.95	0.00	0.31	0.57	0.47	0.00	7.83	2.15	4.18	62.58
1976	0.74	9.15	3.14	5.72	0.03	T	0.00	5.47	1.71	0.07	1.56	0.40	27.99
1977	3.31	2.48	2.96	1.26	5.34	0.03	0.01	0.27	8.89	1.89	4.77	13.38	44.59
1978	32.67	10.04	15.59	10.63	0.20	0.25	0.04	0.01	5.00	0.00	2.95	0.38	77.76
1979	14.78	13.84	7.29	4.15	2.24	0.00	0.02	0.79	0.42	7.99	7.76	7.71	66.99
1980	6.35	22.51	6.03	4.82	1.84	1.69	0.00	0.00	1.44	0.83	0.96	15.47	61.94
1981	15.05	7.85	10.34	3.12	4.07	0.00	0.11	0.00	1.20	6.55	21.39	15.08	84.76
1982	8.80	9.65	10.60	11.52	0.00	2.31	0.59	0.33	0.92	5.96	8.67	14.52	73.87
1983	17.35	20.70	34.55	6.89	2.44	0.24	0.25	1.58	2.47	3.26	17.09	23.66	130.48
1984	0.58	4.68	5.99	2.59	1.22	1.02	0.03	0.58	0.19	2.74	20.37	3.02	43.01

1985	1.21	3.18	4.34	0.67	0.25	2.14	1.09	0.25	6.38	4.05		6.57	30.13
1986	14.93	24.09	12.89	1.76	4.95	0.00	0.00		4.60	1.43	0.35	3.55	68.55
1987	9.17	8.99	13.32	0.22	1.90	0.15	0.21	0.00	0.00	0.47	3.83	17.90	56.16
1988	11.12	0.10	0.34		5.96	1.61	0.25	0.00	0.00	0.70	17.16	6.39	43.63
1989	2.34	1.30	14.92	2.13	1.31	0.13	0.03	0.15	5.17	6.06	1.35	0.00	34.89
1990	10.63	3.33	3.01	1.93	12.76	0.18	0.01	1.08	0.53	1.99	0.65	0.77	36.87
1991	1.49	3.76	22.26	1.78	1.73	1.72	0.01	0.00	T	2.44	1.58	5.66	42.43
1992	4.33	19.72	10.04	5.70	0.06	6.78	0.14	0.00	0.00	6.73	3.04	16.43	72.97
1993	14.96	10.09	13.63	4.95	6.33	2.48	0.00	0.02	0.00	1.67	1.78	11.35	67.26
1994	7.66	7.10	0.57	4.80	1.48	1.67	0.00	0.00	0.11	0.07	6.35	6.25	36.06
1995	38.21	2.66	28.87	7.73	3.45	3.60	0.00	0.00	0.00	0.00	0.27	19.93	104.72
1996	10.38	20.68	3.55	4.55	6.82	0.22	0.00	0.00	0.81	3.41	11.71	27.82	89.95
1997	16.73	1.22	3.06	2.81	0.38	4.37	0.27	1.10	1.73	1.83	16.33	4.94	54.77
1998	22.65	36.73	14.24	5.74	9.53	1.78	0.04	0.00	0.20	1.48	15.92	5.01	113.32
1999	8.79	14.03	8.62	3.04	M0.76	0.60	0.00	0.08	0.00	1.98	8.22	1.85	47.97
2000	16.59	26.06	6.89	5.40	1.94	1.07	0.01	0.00	3.62	21.24	1.25	3.39	87.46
2001	8.79	15.22	4.59	M6.74	0.29	2.36	0.04	0.00	0.95	2.88	17.26	20.19	79.31
2002	M29.83	5.21	4.91	1.80	2.67	0.28	0.00	0.00	0.00	0.00	5.22	37.83	87.75
2003	6.79	2.99	7.37	11.98	1.23	0.00	0.10	1.47	0.15	0.00	10.75	21.28	64.11
2004	7.66	19.40	4.24	2.91	0.91	0.70	0.00	0.00	0.09	8.09	1.84	18.12	63.96
2005	7.51	5.96	10.03	4.41	9.82	1.90	0.00	0.48	0.23	0.87	9.53	22.84	73.58
2006	14.08	8.21	16.67	13.72	M11.26	0.55	0.00	0.00	0.00	0.24	6.98	11.69	83.40
2007	1.25	13.57	0.63	3.12	0.88	0.12	2.68	0.01	0.30	4.16	0.60	10.24	37.56
2008	16.64	10.52	0.28	M0.76	0.94	0.08	0.00	0.00	0.00	4.43	4.01	4.33	41.99
2009	0.52	20.77	8.43	3.31	7.45	2.35	0.00	0.00	0.02	8.13	M0.81	6.62	58.41
2010	21.78	12.02	5.24	M10.37	3.80	0.54	0.00	0.29	0.48	7.07	9.02	14.63	85.24
2011	1.87	6.24	18.75	2.06	5.27	4.29	0.28	0.00	0.17	3.99	3.59	0.69	47.20
2012	7.60	2.85	19.28	M5.30	0.60	0.49	0.06	M0.00	M0.00	1.59	15.62	19.66	73.05
2013	M0.88	0.63	4.47	1.84	0.54	3.58	0.00	0.00	2.12	0.03	2.30	0.32	16.71
2014	0.48	13.18	12.78	2.18	M0.20	M0.00	0.02	0.45	2.54	4.97	M4.99	22.87	64.66
2015	0.58	11.14	M1.15	2.07	1.33	1.22	0.41	0.52	1.18	0.52	2.06	M13.04	35.22
2016	23.30	M3.18	17.35	1.77	2.37	1.46	0.00	0.00	0.00	13.08	M8.47	M9.97	80.95
2017	22.42	25.47	7.85	M10.29	M0.19	M0.42	0.00	0.08	0.27	M0.49	M10.37	0.09	77.94
2018	7.37	0.15	M11.36	4.44	2.25	0.00	0.00	0.00	0.26	1.14	10.45	M6.14	43.56

2019	11.40	23.48	M16.68	7.13	7.55	0.00	0.00	0.78	0.56	0.25	2.61	11.81	82.25
2020	M2.75												2.75
Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.													
Data missing for all days in a month or year is blank.													
Creation date: 2016-07-22													

Climatological Data for SHASTA DAM, CA - February 2017

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2017-02-01	50	39	44.5	5	0	0.00	0.0	0
2017-02-02	55	39	47.0	7	0	0.08	0.0	0
2017-02-03	50	42	46.0	6	0	1.71	0.0	0
2017-02-04	54	43	48.5	9	0	1.78	0.0	0
2017-02-05	52	47	49.5	10	0	1.99	0.0	0
2017-02-06	53	46	49.5	10	0	2.05	0.0	0
2017-02-07	58	45	51.5	12	2	2.89	0.0	0
2017-02-08	63	51	57.0	17	7	0.10	0.0	0
2017-02-09	64	48	56.0	16	6	2.17	0.0	0
2017-02-10	59	49	54.0	14	4	4.12	0.0	0
2017-02-11	57	42	49.5	10	0	0.20	0.0	0
2017-02-12	59	40	49.5	10	0	0.00	0.0	0
2017-02-13	67	41	54.0	14	4	0.00	0.0	0
2017-02-14	60	41	50.5	11	1	0.00	0.0	0
2017-02-15	63	43	53.0	13	3	0.00	0.0	0
2017-02-16	62	42	52.0	12	2	1.03	0.0	0
2017-02-17	61	43	52.0	12	2	0.15	0.0	0
2017-02-18	60	43	51.5	12	2	1.71	0.0	0
2017-02-19	58	42	50.0	10	0	0.33	0.0	0
2017-02-20	M	M	M	M	M	S	0.0	0
2017-02-21	52	42	47.0	7	0	5.03A	0.0	0
2017-02-22	62	42	52.0	12	2	0.02	0.0	0
2017-02-23	61	40	50.5	11	1	0.02	0.0	0
2017-02-24	61	41	51.0	11	1	0.00	0.0	0
2017-02-25	54	33	43.5	4	0	0.04	0.0	0
2017-02-26	61	37	49.0	9	0	0.00	0.0	0
2017-02-27	49	32	40.5	1	0	0.05	0.0	0
2017-02-28	50	33	41.5	2	0	0.00	0.0	0
Average|Sum	57.6	41.7	49.6	267	37	25.47	0.0	0.0

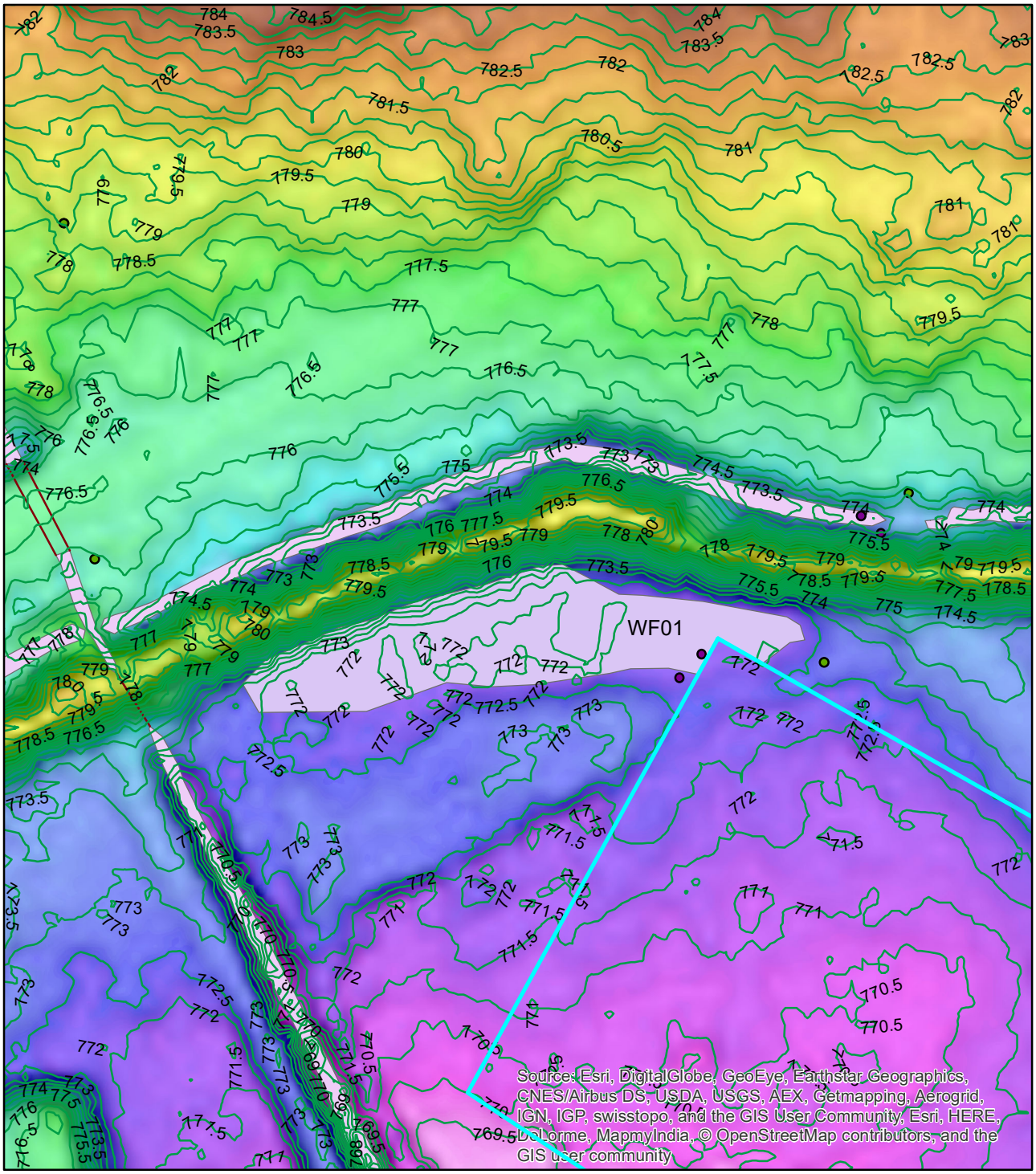

February 23, 2017
After large series of storm events WF01 appear to be isolated. On the northern portion of WF01 is a berm that prevents connection to EX03.

Climatological Data for SHASTA DAM, CA - April 2018

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2018-04-01	78	51	64.5	25	15	0.00	0.0	0
2018-04-02	80	52	66.0	26	16	0.00	0.0	0
2018-04-03	67	49	58.0	18	8	0.00	0.0	0
2018-04-04	74	49	61.5	22	12	0.00	0.0	0
2018-04-05	75	53	64.0	24	14	0.00	0.0	0
2018-04-06	60	48	54.0	14	4	1.30	0.0	0
2018-04-07	57	49	53.0	13	3	2.54	0.0	0
2018-04-08	66	44	55.0	15	5	0.00	0.0	0
2018-04-09	65	48	56.5	17	7	0.00	0.0	0
2018-04-10	82	55	68.5	29	19	0.00	0.0	0
2018-04-11	68	51	59.5	20	10	0.00	0.0	0
2018-04-12	61	37	49.0	9	0	0.26	0.0	0
2018-04-13	60	37	48.5	9	0	0.00	0.0	0
2018-04-14	68	38	53.0	13	3	0.00	0.0	0
2018-04-15	70	40	55.0	15	5	0.00	0.0	0
2018-04-16	73	41	57.0	17	7	0.12	0.0	0
2018-04-17	56	37	46.5	7	0	0.02	0.0	0
2018-04-18	61	42	51.5	12	2	0.00	0.0	0
2018-04-19	61	43	52.0	12	2	0.00	0.0	0
2018-04-20	70	45	57.5	18	8	0.00	0.0	0
2018-04-21	79	54	66.5	27	17	0.00	0.0	0
2018-04-22	85	58	71.5	32	22	0.00	0.0	0
2018-04-23	83	59	71.0	31	21	0.00	0.0	0
2018-04-24	85	61	73.0	33	23	0.00	0.0	0
2018-04-25	86	56	71.0	31	21	0.00	0.0	0
2018-04-26	87	55	71.0	31	21	0.00	0.0	0
2018-04-27	82	48	65.0	25	15	0.00	0.0	0
2018-04-28	M	M	M	M	M	0.00	0.0	0
2018-04-29	56	44	50.0	10	0	0.19	0.0	0
2018-04-30	63	48	55.5	16	6	0.01	0.0	0
Average|Sum	71.0	48.0	59.5	571	286	4.44	0.0	0.0


April 8, 2018 photo
MAIN ST
NELLI ORR ST
SHASTA WAY
FRONT ST
BUENAVISTA ST
HILLCREST DR
Moody Creek
CASCADE BLVD
KENNETT ST
SHASTA DAM BLVD
CA 151
WF01 appears to be isolated after significant precipitation event.

WF01 Lidar SPK-2019-00856



Legend

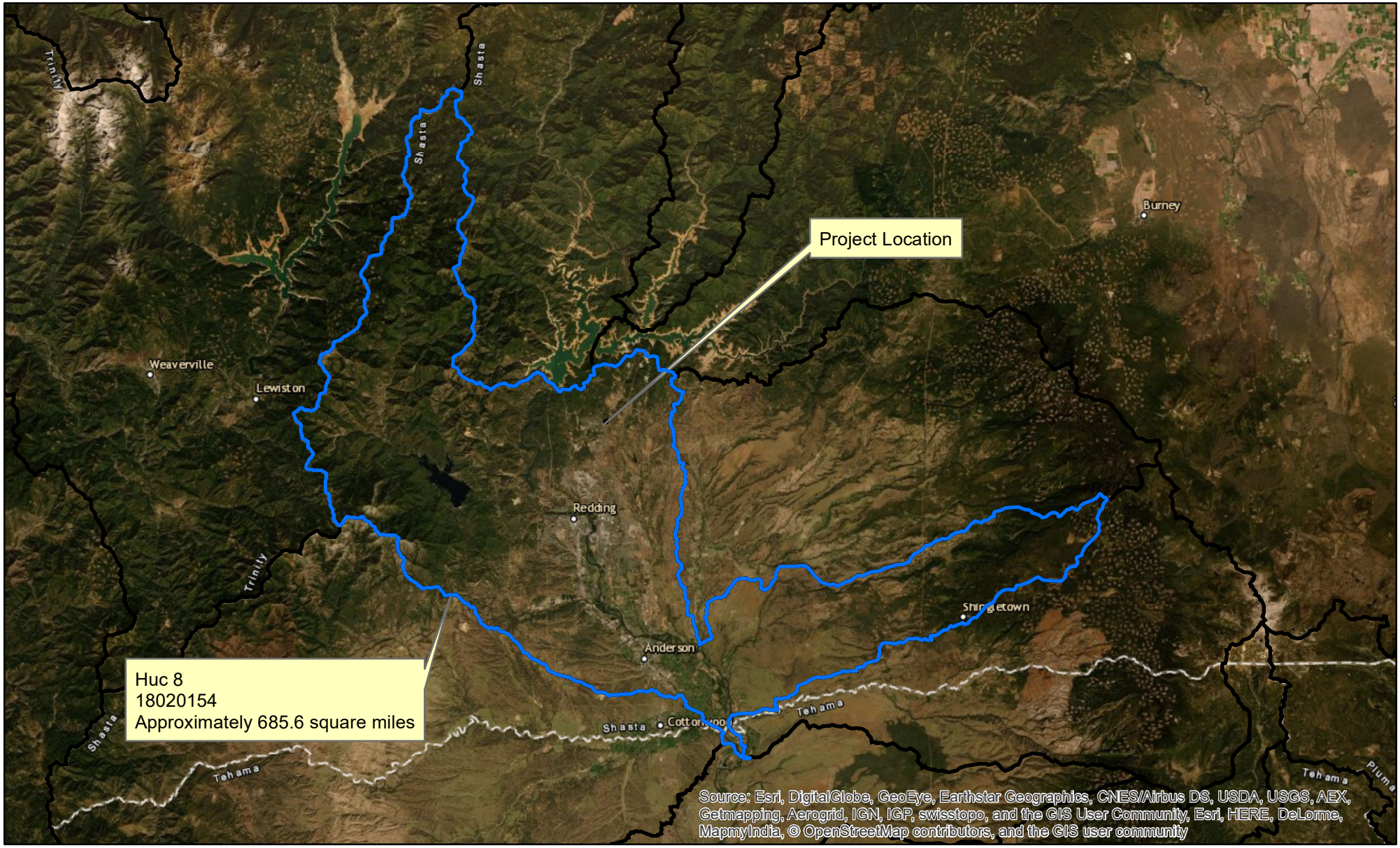
Elevation (Feet)

Value

- High : 784.929
- Low : 767.486

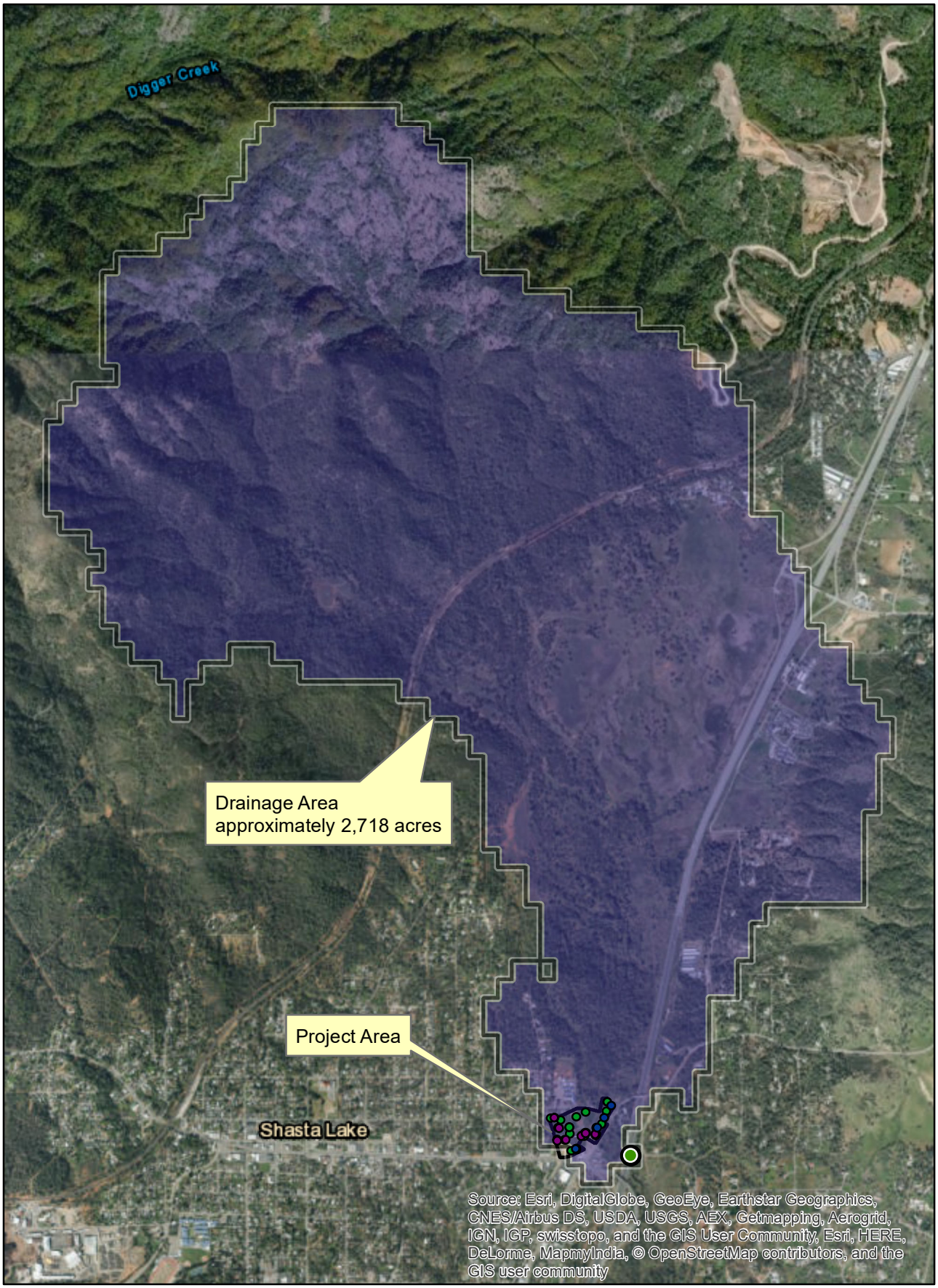
Date: 1/13/2020 Author: Matthew Roberts

HUC 8 Watershed



Author: Matthew Roberts Date: 1/16/2020

Drainage Area (SPK-2019-00856)



N

Author: Matthew Roberts Date: 1/21/2020