

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): June 1, 2020

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento District, Eagle Shadow Mountain Solar, SPK-2019-00147

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **Nevada** County/parish/borough: **Clark County** City: **Moapa River Indian Reservation**

Center coordinates of site (lat/long in degree decimal format): Lat. **36.5447°**, Long. **-114.8018°**

Universal Transverse Mercator: **11 696761.34 4046614.54**

Name of nearest waterbody: Muddy River

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

Name of watershed or Hydrologic Unit Code (HUC): **Muddy, 15010012**

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

Check if other sites (e.g., onsite 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: June 1, 2020

Field Determination. Date(s):

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 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 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: 3,440 linear feet, 3-80 wide, and/or 1.14 acres.

Wetlands: acres.

c. Limits (boundaries) of jurisdiction based on: **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:

Five (5) isolated ephemeral channels that exhibit Ordinary High Water Marks (OHWM) for 118,666 linear feet and 22.44 acres, are located within the delineation boundary. Detailed field investigations were conducted onsite and downstream of the onsite aquatic resources to determine whether onsite drainages were connected with Lake Mead, the downstream Traditional Navigable Waters (TNW).

Drainage 1 (ES-1) is an ephemeral drainage that exhibits OHWM for 7,295 linear feet within the project area.

Water from this feature flows into the isolated Alkali Flat Dry Lake south of the project site.

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.

Drainage 2 (ES-2) is an ephemeral drainage that exhibits OHWM for 41,402 linear feet within the project area. Water from this feature flows into the isolated Alkali Flat Dry Lake south of the project site.

Drainage 3 (ES-3) is an ephemeral drainage that exhibits OHWM for 47,370 linear feet within the project area. Water from this feature flows into an isolated impoundment at I-15 southeast of the project site before it could flow into the California Wash.

Drainage 4 (ES-4) is an ephemeral drainage that exhibits OHWM for 22,409 linear feet within the project area. Water from this feature flows into an isolated impoundment east of the project site at the Union Pacific Rail Road (UPRR), before it could flow into to the California Wash.

Drainage 8 (ES-8) is an ephemeral drainage that exhibits OHWM for 228 linear feet within the project area. Water from this feature flows into an isolated impoundment east of the project area at the UPRR, before water could flow into the California Wash.

Drainage 1 (ES-1), Drainage 2 (ES-2), Drainage 3 (ES-3), Drainage 4 (ES-4) and Drainage 8 (ES-8) (subject drainages) are isolated features that drain toward but do not reach the Muddy River and have no direct or indirect connection to Lake Mead. Lake Mead is the closest TNW. The subject drainages have discrete termini outside of the delineation boundary and no connection to a downstream TNW. Therefore the subject drainages are isolated, intrastate waters with no connection to interstate commerce and are not jurisdictional.

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:

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: Approx. 5,000 **acres**

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

Drainage area: **Pick List**
Average annual rainfall: **5** inches
Average annual snowfall: inches

(ii) **Physical Characteristics:**

(a) Relationship with TNW:

- Tributary flows directly into TNW.
- Tributary flows through **2** tributaries before entering TNW.

Project waters are **20-25** river miles from TNW.

Project waters are **1-2** river miles from RPW.

Project waters are **20-25** aerial (straight) miles from TNW.

Project waters are **1-2** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: The waters within the project area are located entirely within the State of Nevada.

Identify flow route to TNW : Lake Mead, an instream impoundment of the Colorado River, is the nearest Traditional Navigable Water (TNW) since it is subject to Section 10 or the Rivers and Harbors Act.

Drainage 12 (ES-12) flows directly to the Muddy River. Drainage 5 (ES-5), Drainage 6 (ES-6), Drainage 7 (ES-7), Drainage 9 (ES-9), Drainage 10 (ES-10), and Drainage 11 (ES-11) drain to the California Wash.

The California Wash drains to the Muddy River, the Muddy River drains directly to the Lake Mead at a distance of about 26 miles.

Tributary stream order, if known: All streams are ephemeral headwater tributaries, 1st and 2nd order.

(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: 3-80 feet

Average depth: feet

Average side slopes: **varies 2°-90°**.

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Typical southern Nevada ephemeral stream, bed consists of highly erosive substrate. Stream channel incised in areas where channel is constricted.

Presence of run/riffle/pool complexes. Explain: No

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: Entirely dependent on precipitation.

Describe flow regime: Streamflow is dependent almost entirely on precipitation in the surrounding hills.

Mean annual precipitation is approximately 5 inches. Year to year and longer-term variations in annual precipitation results in corresponding variations in flow of these streams.

Other information on duration and volume:

Surface flow is: **confined**. Characteristics:

Subsurface flow: **Pick List**. Explain findings:

- Dye (or other) test performed:

Tributary has (check all that apply):

- Bed and banks
- OHWM⁵ (check all indicators that apply):

⁵A 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.

- clear, natural line impressed on the bank
 - changes in the character of soil
 - shelving
 - vegetation matted down, bent, or absent
 - leaf litter disturbed or washed away
 - sediment deposition
 - water staining
 - other (list):
 - Discontinuous OHWM.⁶ Explain:
- the presence of litter and debris
 - destruction of terrestrial vegetation
 - the presence of wrack line
 - sediment sorting
 - scour
 - multiple observed or predicted flow events
 - abrupt change in plant community

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: No water observed during field work.
Identify specific pollutants, if known:

(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: Channels provide water, spawning gravel and organic carbon down gradient to perennial waters that provide habitat for ESA listed Moapa Dace *Moapa coriacea* and Razorback Sucker *Xyrauchen texanus*
 - Fish/spawn areas. Explain findings: Channels provide spawning gravel and cobble down gradient to perennial waters that provide habitat for fish species.
 - Other environmentally-sensitive species. Explain findings:
 - 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

⁶Ibid.

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:

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

The drainages labeled Drainage 5 (ES-5), Drainage 6 (ES-6), Drainage 7 (ES-7), Drainage 9 (ES-9), Drainage 10 (ES-10) and Drainage 11 (ES-11) on attached maps Appendix A were each demonstrated to flow to the California Wash. Drainage 12 (ES-12) was demonstrated to flow to the Muddy River. The California Wash drains to the Muddy River outside of the project area. The Muddy River drains directly to Lake Mead. The findings of the report clearly demonstrate that drainages Drainage 5 (ES-5), Drainage 6 (ES-6), Drainage 7 (ES-7), Drainage 9 (ES-9), Drainage 10 (ES-10), Drainage 11 (ES-1) and Drainage 12 (ES-12) each flow into the Muddy River and eventually to Lake Mead a Traditional Navigable Water (TNW).

The findings of Kondolf n et al. (1991) demonstrated that ephemeral high-gradient tributaries are important to spawning and rearing habitat for fish species in downstream perennial streams. Ephemeral streams provide water, spawning gravel and cobble to down gradient perennial waters during flow events. The subject channels each have a significant effect on the physical, chemical and biological integrity of Lake Mead.

The drainages labeled Drainage 5 (ES-5), Drainage 6 (ES-6), Drainage 7 (ES-7), Drainage 9 (ES-9), Drainage 10 (ES-10), Drainage 11 (ES-1) and Drainage 12 (ES-12) on attached maps Appendix A each provide water, habitat organic carbon and life cycle support functions for fish species present in the downstream TNW. Each provides water, gravel and organic carbon to the Muddy River thereby providing spawning and rearing habitat for fish species that migrate downstream to the Lake Mead. This process, which occurs in each of these tributaries, transfers nutrients and organic carbon from the headwaters to the downstream TNW and supports downstream food webs.

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:

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:

3. **Non-RPWs⁷ 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: **3,440** linear feet, **3-80** 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.**

⁷See Footnote # 3.

- 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.⁸

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):⁹

- 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): **118,666** linear feet, **1-24 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:

⁸ To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

⁹ 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.

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: Preliminary Jurisdictional Determination Report, Eagle Shadow Mountain Solar Farm. Appendix A and B, prepared by NewFields. February, 2019.
 - Data sheets prepared/submitted by or on behalf of the applicant/consultant. Preliminary Jurisdictional Determination Report, Eagle Shadow Mountain Solar Farm. Appendix E, prepared by NewFields. February, 2019.
 - 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:
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
 - U.S. Geological Survey map(s). Cite scale & quad name: **1:24K; Arrow Canyon SE**
 - USDA Natural Resources Conservation Service Soil Survey. Citation: Web Soil Survey. <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed May 28, 2019
 - National wetlands inventory map(s). Cite name: <https://www.fws.gov/wetlands/Data/Mapper.html>. Accessed May, 2019
 - State/Local wetland inventory map(s):
 - FEMA/FIRM maps:
 - 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
 - Photographs: Aerial (Name & Date): Google Earth Pro 7/4/2016
or Other (Name & Date): Preliminary Jurisdictional Determination Report, Eagle Shadow Mountain Solar Farm. Appendix C, prepared by NewFields. February, 2019.
 - Previous determination(s). File no. and date of response letter:
 - Applicable/supporting case law:
 - Applicable/supporting scientific literature: Kondolf, G. M., et al. "Distribution and stability of potential salmonid spawning gravels in steep boulder-bed streams of the eastern Sierra Nevada." Transactions of the American Fisheries Society 120.2 (1991): 177-186.
 - Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD:

The area identified as 'Development Exclusion Area' on the associated maps was not evaluated for Waters of the U.S. The Muddy River is outside of the project boundary and not delineated.

No wetlands were identified within the project area. All stream channels with an OHWM within the project area were delineated. Surface water from the site collects into twelve (12) separate drainages that drain away from the project area. Twelve (12) ephemeral stream channels and their tributaries, totaling 118,666 linear feet (22.442 acres) were delineated within the project area (Drainage 1 (ES-1) - Drainage 12 (ES-12)). Of that, seven (7) ephemeral stream channels (Drainage 5 (ES-5), Drainage 6 (ES-6), Drainage 7 (ES-7), Drainage 9 (ES-9), Drainage 10 (ES-10), Drainage 11 (ES-11) and Drainage 12 (ES-12)) totaling 3,442 linear feet (1.14 acres) was determined to be hydrologically connected to and have a significant effect that is more than speculative or insubstantial on the chemical integrity of the downstream TNW, Lake Mead.

Five of the twelve drainages are hydrologically disconnected from the downstream TNW by impoundments, the Union Pacific Railroad or Interstate 15. These impoundments prevent water from reaching a downstream TNW. Drainage 1 (ES-1), Drainage 2 (ES-2), Drainage 3 (ES-3), Drainage 4 (ES-4), and Drainage 8 (ES-8) have no connection to a downstream TNW.

Drainage 1 (ES-1) and Drainage 2 (ES-2) flow to an isolated dry lakebed located outside the project area and within the closed basin of Dry Lake Valley.

Drainage 3 (ES-3) is an ephemeral drainage. Water from this feature flows into an impoundment southeast of the project site at I-15. I-15 prevents flow into the California Wash and eventually Lake Mead, the downstream TNW.

Drainage 4 (ES-4) and Drainage 8 (ES-8) are ephemeral drainages. Water from these features flow into drainages that impounds east of the project site at the UPRR, before it could travel to the California Wash and eventually Lake Mead, the downstream TNW.

Drainage 5 (ES-5), Drainage 6 (ES-6), Drainage 7 (ES-7), Drainage 9 (ES-9), Drainage 10 (ES-10), and Drainage 11 (ES-11) drain to the California Wash, a mapped (USGS) stream that flows directly to the Muddy River, an RPW and mapped (USGS) Perennial River which flows directly into Lake Mead a navigable-in-fact water of the U.S.

The California Wash is approximately 4 miles to the east from the project boundary at its furthest point and approximately 1.3 miles from the project boundary at its closest point. The California Wash ultimately flows into the Muddy River approximately northeast of the project boundary.

Drainage 12 (ES-12) flows directly to the Muddy River, an RPW and mapped (USGS) perennial river which flows directly into Lake Mead a navigable-in-fact water of the U.S.

Each stream is documented on individual forms located in the *Preliminary Jurisdictional Determination Report, Eagle Shadow Mountain Solar Farm* report prepared by NewFields, dated February, 2019. These sheets include the general area conditions, physical characteristics, chemical characteristics, and biological characteristics of each water evaluated so the responses provided in B and D of this document should be considered averages.