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): February 8, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento District, **Bedroc Proposed Landfill-Pahranagat Wash SPK-2014-00603-SG**

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: **Nevada** County/parish/borough: **Lincoln** City:
Center coordinates of site (lat/long in degree decimal format): Lat. **36.9738**°, Long. **-114.9856**°
Universal Transverse Mercator: **11 679303.84 4093870.2**
Name of nearest waterbody: **Pahranagat Wash**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Colorado River**
Name of watershed or Hydrologic Unit Code (HUC): **Muddy River, Nevada, 15010012**
☒ 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: **February 8, 2017**
☒ Field Determination. Date(s): **November 28, 2016**

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 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: 1,340 linear feet, 18.5 feet wide (average), 0.57 acres.
Wetlands: 0 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:

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 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: **4,692 square miles (HUC 8)**
   Drainage area: **233 square miles**
   Average annual rainfall: **4.0 inches**
   Average annual snowfall: **1.0 inches**

   (ii) Physical Characteristics:
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☒ Tributary flows through **2** tributaries before entering TNW.

   Project waters are **30 (or more)** river miles from TNW.
   Project waters are **25-30** river miles from RPW.
   Project waters are **30 (or more)** aerial (straight) miles from TNW.
   Project waters are **15-20** aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain: **The Pahranagat Wash does not cross or serve as a state boundary.**

   Identify flow route to TNW[5]: Pahranagat Wash flows through the review area, to the Muddy River, which flows directly to the Colorado River (Lake Mead).
   Tributary stream order, if known:

[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.

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

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain:
☒ Manipulated (man-altered). Explain: **Most of the review area within approximately 1 mile directly upstream and adjacent to the review tributary, within and along the historic Pahranagat Wash channel, has been graded, ditched and otherwise altered since the 1940s, first by farming operations, subsequently by a sand and gravel operation in the early 1990s, and most recently by the development of a landfill starting in 2006 and continuing to the present time. The review tributary appears to be a historic channel of the Pahranagat Wash, but is now discontinuous for more than a mile (separated by graded and developed area) from the historic Pahranagat Wash Channels upstream (north) of the review area.**

Tributary properties with respect to top of OHWM (estimate):
Average width: **18.5 feet**
Average depth: **1 foot**
Average side slopes: **2:1.**

Primary tributary substrate composition (check all that apply):

☒ Silts	☒ Sands	☐ Concrete
☒ Cobbles	☒ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover: 0%	
☐ Other. Explain:		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: **At the point in the review area where OHWM indicators appear, a substantial head cut is developing into a large, flat, heavily graded area west and northwest of the tributary.**
Presence of run/riffle/pool complexes. Explain: **None within the project area**.
Tributary geometry: **Relatively straight**
Tributary gradient (approximate average slope): **< 1 %**

(c) Flow:
Tributary provides for: **Ephemeral flow**
Estimate average number of flow events in review area/year: **2-5**
Describe flow regime: **Infrequent, short duration events.**
Other information on duration and volume: **In 2014 several large storm events passed through the project area, but resulted in no flows in the washes. Locals report that washes in the area only flow in extreme events.**

Surface flow is: **Discrete and confined.** Characteristics: T**he single tributary determined to be within the review area appears to collect overland sheet flow from an adjacent graded, compacted area of approximately 18 acres in the northwest section of the review area. This tributary begins as a head cut into the area of overland flow. While the area is now graded and compacted, the general shape of the current head cut can be seen in aerial photos as far back as 1994, more than 10 years prior to the development of the adjacent area as a landfill. Little or no surface flow within the survey tributary appears to originate from the larger developed landfill areas to the north. A 2014 Corps of Engineers analysis, required by the EPA, of the 11 potential channels flowing into the larger landfill area, found that none exhibited an OHWM at their entry point into the graded and developed areas. This included the historic channels of the Pahranagat Wash entering from the north, which additionally exhibited little indication of overland flow into the landfill or around it. Within the survey area itself, the small section of the historic Pahranagat Wash channel that remains does not exhibit OHWM indicators until reaching the previously mentioned head cut, at which point multiple OHWM indicators appear. The landfill area has no obvious storm water system, but does have a leachate collection system, which is collected in several lined ponds downstream of the currently active landfill and just upstream of the review area. In the areas within and adjacent to the landfill area that are not compacted or otherwise manipulated, it appears that flows infiltrate into deep, well or excessively drained soils.**

Subsurface flow: **Unknown**. Explain findings: **The soils in the review area are highly permeable and deep. Groundwater present in the area, including two reported springs, is believed to emanate from a perched water table present in the alluvial slopes sloping eastward, to the west of the review area. The water table ranges from 11 to 80 feet below grade within the larger landfill area to the north of the review tributary. Subsurface flows in the area are likely to occur.**
☐ 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
  - ☒ 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): Cracking of soil after drying
  - ☒ 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
- ☒ Discontinuous OHWM.[7] Explain: **OHWM is discontinuous upstream of the reviewed tributary in a stretch of the historic channel, and no channels are present in the larger area to the north that has been developed for multiple uses over several decades.**

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 rain event observed. Several reported events in the areas resulted in no surface flows. Ephemeral flows during large rain events would likely be characterized by high sediment loads and could potentially contain pollutants being washed from the large amount of industrial and transportation debris located in the area northwest of the tributary.**

Identify specific pollutants, if known: **Unknown**

(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: **The survey area is within suitable habitat for the Mojave desert tortoise (a threatened species), but not within desert tortoise critical habitat.**
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ 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:

[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.

(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: **The review area tributary is a section of the historic Pahraganat Wash Channel, an ephemeral tributary which flows to the Muddy River (an RPW) and thence to the Colorado River. Pahranagat Wash is discontinuous from the review tributary for approximately 1.3 miles upstream because the area has been manipulated for decades by grading, excavation, and agricultural use. Upstream of the developed farm/landfill area, Pahranagat Wash parallels Highway 93 and has likely had historic drainage characteristics altered because of that construction. The headwaters of Pahranagat Wash are located on the south slopes of a ridgeline that partially defines the Pahranagat Valley to the northwest. Surface flows in the Pahraganat Wash descend southwest from its headwaters to Evergreen Flat before continuing south approximately 15 miles to the review area. As the wash descends onto Evergreen Flat, an ephemeral stream draining from the Pahranagat Valley flows into it. This represents the surface outflow from the Pahraganat Valley and the White River system. Pahranagat Valley, which contains the Pahranagat National Wildlife Refuge and a substantial amount of irrigated agricultural lands, receives drainage from the White River system as well as from three large spring areas. The valley contains several shallow lakes modified with low dams or berms to retain water, as well as extensive wetlands. The point at which the most downstream of these areas outlets through a gap in the previously mentioned ridge and flows into Pahranagat Wash shows little indication of surface flow, suggesting that the substantial amount of surface water within the valley upstream of this point infrequently leaves the valley via surface flows. South of the gap in the ridge, Pahraganat Wash flows south approximately 15 miles to the project area through Evergreen Flat. The mapped soils within the floodplain of Pahranagat Wash as it flows south through the project area to the Muddy River are excessively drained, with low potential for runoff. The Pahranagat Wash channel becomes indistinct along several stretches north of the review area, suggesting infiltration is high in these areas relative to the flows carried by the wash. Given the low rainfall, low gradient, excessively drained soils, soil disturbance and ground water pumping in the review area, the absence of surface flow indications through the developed farming and landfill areas directly north of the review tributary is most likely explained by infiltration and subsurface flows.**

The upper Muddy River sub-basin, as measured by stream flows at Moapa, receives inputs from two drainage areas, the White River-Pahranagat Wash drainage area and the Meadow Valley Wash drainage area. The average stream flow of the Muddy River at Moapa ranges from 30-40 cfs, based on a USGS study of 1989-1993 water years (Gortsema, 1993). Of this flow, the USGS has estimated that the average input is only slightly increased by surface flows from either of the drainage areas. Flows into the Muddy River from the two drainage areas are almost completely due to subsurface flows discharging from numerous springs. Of these sub-surface flows, 78% were estimated to originate from the White River-Pahranagat Wash drainage area. The USGS data suggests that surface flows in this drainage represent less than 1% of the flows into the Muddy River near Moapa.

The USGS study contained data from a temporary stream gage on Pahranagat Wash located near the lower end of Arrow Canyon, a slot canyon several miles west of Moapa and approximately 20 miles downstream of the survey area. Between October 1988 and September 1991 there were 19 days of flows measured by this gage with a mean flow (during the period of flows) of 38 cfs and a maximum estimated instantaneous flow of 3,350 cfs. It should be noted, however, that the wash at this location drains a fairly unique flashy drainage within the Pahrahgant Wash drainage with a high potential for runoff, as opposed to the much larger stretch of the wash extending upstream to the project area, which likely has a lower rate of runoff from its drainage area and has much more capacity for infiltration. The wash areas upstream of the stream gage are therefore assumed to have substantially lower flows than that measured by the gage within the slot canyon.

The reviewed tributary flows through the review area and after approximately 1 mile crosses to the east of Highway 93 as Pahranagat Wash, at which point Kane Springs Wash flows into it. Although the Pahranagat Wash channel becomes less distinct in certain areas downstream of the review area, it maintains a visible channel or channels continuously to its entry to the Muddy River, and additionally shows areas of ponding and increased vegetative cover, suggesting surface flows have been at least locally present.

The data and other evidence available on Pahranagat Wash downstream of the review area suggests surface runoff potential within the watershed is low due to high infiltration rates within the wash, and that most flows from the drainage that reach the Muddy River are sub-surface. However, an uninterrupted channel and evidence of surface flows and ponding downstream of the review area suggests the wash supports infrequent surface flows downstream to the Muddy River, along with infiltration that supports sub-surface inputs. Pahranagat Wash downstream of the review area likely carries nutrients and pollutants that would support or affect downstream habitat and food webs, as well as infrequent but potentially large pulses of organic material. Due to the floodwaters it carries, Pahranagat Wash downstream of the review area therefore has more than a speculative physical, chemical, and biological relationship to the Colorado River.

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-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: **1,340 linear feet**, **18.5 feet wide, 0.57 total acres**.
   - ☐ 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]**

[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

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.
☐ 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:
☒ 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:
☒ USGS NHD data.
☒ USGS 8 and 12 digit HUC maps.

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[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.*

- ☒ U.S. Geological Survey map(s). Cite scale & quad name: **1:24K; NV-WILDCAT WASH NW**
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **Custom Web Soil Survey Report (2/17/2017); Energy and Defense Area, Nevada, Parts of Clark, Lincoln and Nye Counties, Version 1, Dec 4, 2013; Lincoln County, NV, South Part, Version 12, Aug 29,2016**
- ☐ National wetlands inventory map(s). Cite name:
- ☐ 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, various dates ranging from May 1990 to July 2016
  or ☐ Other (Name & Date):
- ☒ Previous determination(s). File no. and date of response letter: SPK-2014-00603-SG, January 28, 2015
- ☐ Applicable/supporting case law:
- ☒ Applicable/supporting scientific literature: **Westenburg, C.L. 1995. Dissolved-Solids Contribution to the Colorado River from Public Lands in Southeastern Nevada, through Sept 1993, U.S. Geological Survey Water-Resources investigations Report 94-42-10, http://pubs.usgs.gov/wri/1994/4210/report.pdf ; Gortsema, G.C. 1993, Selected Data on Water Quantity and Quality at Four Sites on Streams Draining Public Lands, Colorado River Basin, Southeastern Nevada, October 1999-September 1991, U.S. Geological Survey, Open File Report 93-439, http://pubs.usgs.gov/of/1993/0439/report.pdf**
- ☒ Other information (please specify): **Bedroc Landfill and Waste Management Facility, Design Report, October 2013, Revised February 2014, May 2014, Joyce Engineering; McQueary, December 23, 2014, Aquatic Resources Assessment Report Bedroc Landfill (Western Elite), U.S. Army Corps of Engineers, Sacramento District**

B. ADDITIONAL COMMENTS TO SUPPORT JD:

This AJD was made when new information became available to the Corps regarding the completeness and accuracy of the original waters delineation used to develop a 2015 JD for the review area.