

# PIKE SOLAR LLC



Appendix H- Non-Wetland Water and Wetlands Water  
Features Report



Corporate Headquarters  
3222 South Vance Street, Suite 200, Lakewood, CO 80227  
T: 303.980.5200 F: 303.980.0089  
www.pinyon-env.com

October 2, 2020

Tony Martinez  
U.S. Army Corps of Engineers  
201 West 8th Street, Suite 350  
Pueblo, CO 81003

Subject: Request for an Approved Jurisdictional Determination for the Pike Solar Project, El Paso County, Colorado

Dear Mr. Martinez:

Pinyon Environmental, Inc. (Pinyon), on behalf of JSI Construction Group, LLC, is respectfully submitting this Approved Jurisdictional Determination request for the non-wetland waters and wetlands identified in the project area of the above-referenced project. To assist you in making this determination, we have enclosed a *Non-Wetland Water Features and Wetland Report* as well as a *Request for Corps Jurisdictional Determination* form. Eight non-wetland water features and 21 wetlands were mapped in the project area and include:

- Williams Creek and associated wetlands (WL-01 thru WL-08)
- Unnamed Drainage 1
- Unnamed Drainage 2 and associated wetlands (WL-09 thru WL-12)
- Unnamed Drainage 3
- Unnamed Drainage 4
- Unnamed Drainage 5
- Unnamed Drainage 6 and associated wetlands (WL-13 thru WL-21)
- Unnamed Pond 1

If you have any questions or require additional information, do not hesitate to contact me at 303-980-5200, or by email at [haraminac@pinyon-env.com](mailto:haraminac@pinyon-env.com). We appreciate your time in this matter and look forward to your reply.

Sincerely,

**PINYON ENVIRONMENTAL, INC.,**

A handwritten signature in black ink that reads "Allison Haraminac".

Allison Haraminac  
Energy Market Manager

Cc: Claire Gerrish, JSI Construction Group, LLC

Enclosures: Request for Corps Jurisdictional Determination  
Non-Wetland Water Features and Wetland Report

**Appendix 1 - REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD)**

To: District Name Here Albuquerque District

I am requesting a JD on property located at: Pike Solar Project, El Paso County, Colorado  
(Street Address)

City/Township/Parish: Unincorporated County: El Paso State: CO

Acreage of Parcel/Review Area for JD: 3269

Section: Multiple Township: 16 South Range: 64 and 65 West

Latitude (decimal degrees): 38.644141° Longitude (decimal degrees): -104.631250°

(For linear projects, please include the center point of the proposed alignment.)

Please attach a survey/plat map and vicinity map identifying location and review area for the JD.

I currently own this property.  I plan to purchase this property.

I am an agent/consultant acting on behalf of the requestor.

Other (please explain):

Reason for request: (check as many as applicable)

I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.

I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.

I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.

I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.

I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.

A Corps JD is required in order to obtain my local/state authorization.

I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.

I believe that the site may be comprised entirely of dry land.

Other:

Type of determination being requested:

I am requesting an approved JD.

I am requesting a preliminary JD.

I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.

I am unclear as to which JD I would like to request and require additional information to inform my decision.

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

\*Signature: Allison Haraminac

Digitally signed by Allison Haraminac  
DN: cn=Allison Haraminac, o=Pinyon-Env, email=Haraminac@pinyon-env.com, c=US  
Date: 2020.10.01 10:09:04 -0600

Date: 10/1/2020

Typed or printed name: Allison Haraminac

Company name: Pinyon Environmental, Inc.

Address: 3222 S. Vance Street, Suite 200

Lakewood, CO 80227

Daytime phone no.: 303.980.5200

Email address: Haraminac@pinyon-env.com

\*Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.

Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.

Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

October 2, 2020

## **Non-Wetland Water Features and Wetlands Report**

**Pike Solar Project  
El Paso County, Colorado**

**Prepared For:**

JSI Construction Group, LLC  
1710 29th Street, Suite 1068  
Boulder, CO 80301

**Pinyon Project No.:**

I/20-1215-02



October 2, 2020

## **Non-Wetland Water Features and Wetlands Report**

**Pike Solar Project  
El Paso County, Colorado**

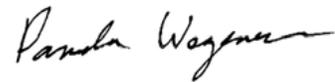
**Prepared For:**

JSI Construction Group, LLC  
1710 29th Street, Suite 1068  
Boulder, CO 80301

**Pinyon Project No.:**

1/20-1215-02

**Prepared by:**



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Pam Wegener  
Biologist



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Matt Santo  
Environmental Scientist

**Reviewed by:**



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Allison Haraminac  
Energy Market Manager

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### Non-Wetland Water Features and Wetlands

Pike Solar Project  
El Paso County, Colorado

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## I. Introduction

JSI Construction Group, LLC (JSI), has contracted Pinyon Environmental, Inc. (Pinyon), to conduct a delineation of potential Waters of the United States (WUS), including non-wetland water features and wetlands, for the Pike Solar Project (project) in El Paso County, Colorado. Pinyon understands that JSI is planning to develop a large-scale photovoltaic solar energy facility just east of Calhan Reservoir and about five miles southeast of the City of Fountain. JSI is seeking assistance with determining the potential jurisdictional status of non-wetland water features and wetlands present within the project area. This *Non-Wetland Water Features and Wetlands Report* (report) details the methodology and results of Pinyon's WUS delineation.

This report has been prepared to identify existing conditions in wetlands and other waters that may be considered jurisdictional WUS. Such waters are regulated by the United States Army Corps of Engineers (USACE) in accordance with Section 404 of the Clean Water Act (CWA). Jurisdictional WUS include traditional navigable waters (TNWs), their relatively permanent tributaries, other tributaries that have a "significant nexus" with a TNW, and associated wetlands. Wetlands are "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Environmental Laboratory, 1987). Impacts to WUS, including wetlands, require permitting through the USACE. The USACE typically does not take jurisdiction over wetlands or waterways that do not flow to TNWs unless these areas are considered to have a "significant nexus" to navigable waters. Only the USACE has the authority to make jurisdictional determinations; however, signs that a waterway could potentially be considered jurisdictional include representation with a "blue line" on a U.S. Geological Survey (USGS) topographic map and the presence of a well-defined bed, banks, and ordinary high water mark (OHWM).

### I.1 Project Location

The project area includes approximately 3,269 acres of mostly rangeland in El Paso County, Colorado (Figure 1a and 1b). JSI provided the proposed project area to Pinyon, and solar facilities will be sited somewhere within this area. The project is centered at decimal degree coordinates (World Geodetic System [WGS] 84) latitude 38.644141°, longitude -104.631250°. The project area spans multiple sections in Township 16 South and Ranges 64 and 65 West of the Fountain, Fountain NE, Fountain SE, and Buttes Colorado, United States Geological Survey (USGS) 7.5-Minute Quadrangles (USGS, 1994a; USGS, 1994b; USGS, 1961; USGS, 1975). The elevation of the project area ranges between approximately 5,370 feet and 5,590 feet above mean sea level.

## 2. Methods

### 2.1 Desktop Assessment

Prior to the delineation, Pinyon conducted a desktop review of potential water features and wetlands in the project area from the following sources:

- Aerial imagery and ground-based photography from Google Earth Pro (Google Earth Pro, 2020)
- United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Data (USFWS, 2018)
- USGS National Hydrography Dataset (NHD) (USGS, 2020)
- United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA, 2020)
- USGS Topographic maps (USGS, 1994a; USGS, 1994b; USGS, 1961; USGS, 1975)

### 2.2 Field Survey

From July 15-19, 2019 and September 7-10, 2020, Pinyon delineated potential WUS within the project area. Wetlands were mapped and delineated in accordance with the *1987 USACE Wetland Delineation Manual* and the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)* (Environmental Laboratory, 1987; USACE, 2010). Wetlands were identified by the presence of hydrophytic vegetation (as determined by vegetation indicators specified in USACE, 2010, in which vegetation may be characterized as “obligate” [OBL], “facultative wetland” [FACW], “facultative” [FAC], or “upland” [UPL]); hydric soils (as determined by soil indicators specified in USACE, 2010); and wetland hydrology (as determined by hydrology indicators specified in USACE, 2010). Wetlands were classified using the Cowardin classification system (Cowardin, et al., 1979). Relevant information about wetlands (e.g., vegetation, hydrology) were noted and photographs were taken (Appendix A – Photographic Log). Wetland determination data forms are included in Appendix B.

Boundaries of non-wetland water features were evaluated using field indicators for the OHWM. In general, the OHWM was determined based on the presence of bed and bank, a visible impression on the shoreline, a change in substrate type or texture, or a change in vegetation (USACE, 2005). In the context of this report, non-wetland water features were defined as all non-wetland areas between the OHWM. Wetland boundaries and the OHWM were recorded in the field with sub-meter accuracy using ArcGIS Collector paired with a R1 Global Navigation Satellite System Receiver.

### 3. Results

The following sections describe the general site conditions, hydrology, soil types, non-wetland water features, and wetlands identified in the project area.

#### 3.1 General Site Conditions

The project area is situated in a rural undeveloped location, which consisted of shortgrass prairie habitat and rangeland areas. Vegetation was dominated by species such as common sunflower (*Helianthus annuus*), field bindweed (*Convolvulus arvensis*), kochia (*Bassia scoparia*), lambsquarters (*Chenopodium album*), western wheatgrass (*Pascopyrum smithii*), blue grama (*Bouteloua gracilis*), buffalo grass (*Bouteloua dactyloides*), cholla (*Cylindropuntia* sp), fourwing saltbush (*Atriplex canescens*), leafy false goldenweed (*Oonopsis foliosa*), and prickly pear cactus (*Opuntia* sp.). Few isolated plains cottonwood (*Populus deltoides*) and salt cedar (*Tamarix* sp.) trees were noted near drainages within the project area.

Numerous wetlands were identified along the drainages within the project area. Wetlands were primarily palustrine emergent (PEM) and dominated by species such as alkali sacaton (*Sporobolus airoides*; FAC), common spikerush (*Eleocharis palustris*; OBL), foxtail barley (*Hordeum jubatum*; FACW), poison suckleya (*Suckleya suckleyana*; FACW), milkvetch (*Astragalus canadensis*; FAC), common sunflower (FACU), common threesquare (*Schoenoplectus pungens*; OBL), and narrowleaf cattail (*Typha angustifolia*; OBL). One palustrine scrub shrub (PSS) wetland was identified and was dominated by salt cedar (FACW). Further details on wetland vegetation be found in Appendix B.

##### 3.1.1 General Hydrology

Hydrology in the area is dominated by intermittent and/or ephemeral drainages, portions of which have been altered by human activities such as agriculture, informal two-track roads and energy facilities infrastructure. Surface water within the project area is likely derived from stormwater runoff, and some drainages lacked a continuous OHWM. When water flows within the drainages, flow is generally to the south and into Williams Creek, the main drainage feature within the project area. Williams Creek continues south out of the project area and converges with Fountain Creek, approximately 3.5 miles from the project area. Fountain Creek flows to the Arkansas River, a TNW (USGS, 2020).

##### 3.1.2 Soils

There are seven soil types mapped on the NRCS soil survey within and adjacent to the non-wetland waters and wetlands in the project area (NRCS, 2020). None of the soils are considered hydric. Soil series include:

- *Ascalon sandy loam, 1 to 3 percent slopes*. This soil series is described as well-drained, is not considered hydric, and is commonly associated with flats. Parent material includes mixed alluvium and eolian deposits.
- *Heldt clay loam, 0 to 3 percent slopes*. This soil series is described as well-drained, is not considered hydric, and is commonly associated with alluvial fans and stream terraces. Parent material includes clayey alluvium derived from shale.
- *Fort loam, 1 to 5 percent slopes, cool*. This soil series is described as well-drained, is not considered hydric, and is commonly associated with fans, interfluves, and plains. Parent material includes loamy alluvium and/or eolian deposits.
- *Manzanola silty clay loam, saline, 0 to 2 percent slopes*. This soil series is described as well-drained, is not considered hydric, and is commonly associated with drainageways. Parent material includes alluvium derived from shale.

- *Midway clay loam, 3 to 25 percent slopes.* This soil series is described as well-drained, is not considered hydric, and is commonly associated with hills and uplands. Parent material includes slope alluvium over residuum weathered from shale.
- *Razor-Midway complex.* This soil series is described as well-drained, is not considered hydric, and is commonly associated with hills. Parent material includes clayey slope alluvium over residuum weathered from shale.
- *Ustic Torrfluvents, loamy.* This soil series is described as well-drained, is not considered hydric, and is commonly associated with floodplains and stream terraces. Parent material includes sandy, clayey and stratified loam materials.

Further details on soils in and adjacent to wetlands can be found in Appendix B.

## **3.2 Non-Wetland Waters and Wetlands**

Eight non-wetland water features and 21 wetlands were mapped in the project area (Tables 1 and 2; Figure 2). The non-wetland water features included Williams Creek, six unnamed drainages (Unnamed Drainage 1 through 6) and an unnamed pond (Unnamed Pond 1). Wetlands were identified along three of the non-wetland waters: Williams Creek (Wetland-01 [WL-01] through WL-08); Unnamed Drainage 2 (WL-09 through WL-12) and Unnamed Drainage 6 (WL-13 through WL-21).

### **3.2.1 Williams Creek and Associated Wetlands (WL-01 through WL-08)**

Williams Creek is an incised creek with a natural substrate that is mapped as a dashed blue line on the Fountain NE and Fountain SE, Colorado 7.5 Minute Quadrangles (USGS, 1961; USGS 1975). Where it passes through the project area, Williams Creek is classified as "Intermittent Stream" by the NHD and "Riverine Intermittent" by the NWI (USGS, 2020; USFWS, 2018). Within the project area, the creek had a continuous and well-defined OHWM in the north (Figure 2a and 2c). In the southern portions of the project area, the OHWM was well-defined in places, but indistinct along portions of the drainage (Figure 2g and 2i). On average, where the OHWM was mapped, the drainage had an approximately 5- to 10-foot-high incised bank (Appendix A, photo 1). The creek was dry at the time of both site visits with some intermittent standing water observed. Williams Creek likely flows during storm events and seasonally wet periods, and flow within the drainage is to the south to Fountain Creek and eventually into the Arkansas River, a TNW (USGS, 2019; Figure 2). Two small artificial depressions (stock ponds) abutting Williams Creek were also noted (Figure 2i). During the site visits, these areas were dry and covered with common sunflower. Given the proximity to the creek, these features are included in the Williams Creek drainage. Because water from Williams Creek may ultimately flow into a TNW, the feature may be jurisdictional. However, only the USACE has the final authority to determine jurisdictional status.

Eight wetlands associated with Williams Creek were delineated within the project area: WL-01 through WL-08 (Table 2; Figure 2a and 2c; Appendix A, photos 9 thru 11). All wetlands were PEM wetlands except WL-07. WL-07 was classified as a PSS wetland (Cowardin et al., 1979). The wetlands were all located in the northern portion of the project area along or within the drainage. The likely source of hydrology to these wetlands is from stormwater runoff associated with the creek. Three sampling points were excavated in the wetlands along the drainage: SP-01 in WL-01, SP-03 in WL-05 and SP-05 in WL-07 (Figure 2a and 2c; Appendix A, photos 18 thru 20; Appendix B;). Sampling points were not completed in nearby wetlands that had similar vegetation. In wetlands where sampling points were not completed, reference pits were excavated to confirm soils and hydrology.

### **3.2.2 Unnamed Drainage 1**

Unnamed Drainage 1 is mapped as a solid blue line within the project area on the Fountain, Colorado 7.5-Minute Quadrangle (USGS, 1994a; Figure 1a). It is classified as "Intermittent Stream" by the NHD and "Riverine Intermittent" by the NWI (USGS, 2020; USFWS, 2018). At the time of the site visit, the OHWM was faint and discernable only in some areas. Numerous human-made impoundments intersected the drainage, which resulted in the formation of several artificial depressions (stock ponds) along the drainage (Figure 2e; Photo 2 in Photographic Log). The drainage, including the stock ponds, was dry during the time of the site visits. Unnamed Drainage 1 likely flows only during seasonally wet periods or storm events. During these times, the drainage presumably flows southeast toward Williams Creek, which ultimately discharges into the Arkansas River, a TNW (USGS, 2020). Because water from Unnamed Drainage 1 may ultimately flow into a TNW, the feature may be jurisdictional. However, only the USACE has the final authority to determine jurisdictional status.

No wetlands associated with Unnamed Drainage 1 were delineated within the project area.

### **3.2.3 Unnamed Drainage 2 and Associated Wetlands (WL-09 through WL-12)**

Within the project area, Unnamed Drainage 2 is mapped as a dashed blue line on the Fountain, Fountain SE, and Fountain NE, Colorado 7.5-Minute Quadrangles (USGS, 1994a; USGS, 1961; USGS 1974; Figure 1b). It is classified as "Intermittent Stream" by the NHD and "Riverine Intermittent" by the NWI (USGS, 2020; USFWS, 2018). At the time of the site visit, the OHWM was faint and discernable only in some areas, and the OHWM did not extend toward Williams Creek due to the presence of a construction site (Figure 2e, 2f, 2g and 2i; Appendix A, photo 3). Numerous human-made impoundments intersected the drainage, which resulted in the formation of several artificial depressions (stock ponds) along the drainage. The drainage, including the stock ponds, was dry at the time of the site visits and likely only flows during seasonally wet periods or storm events, and does not appear to have a direct connection to Williams Creek or a TNW due to the construction site. It is likely that this drainage once had a connection to Williams Creek. Because Unnamed Drainage 2 does not have an apparent surface water connection to a TNW, the feature may be non-jurisdictional. However, only the USACE has the final authority to determine jurisdictional status.

Four wetlands associated with Unnamed Drainage 2 were delineated within the project area: WL-09 through WL-12 (Table 2; Figure 2e, 2f and 2i; Photos 12-14 in Photographic Log). All four wetlands were PEM wetlands and were dominated by emergent vegetation (Cowardin et al., 1979). The likely source of hydrology to these wetlands is from stormwater runoff associated with Unnamed Drainage 2. Five sampling points were excavated in the wetlands along the drainage: SP-14 in WL-09; SP-16 in WL-10; SP-19 in WL-11; and SP-21 in WL-12 (Appendix B; Appendix A, photo 24).

### **3.2.4 Unnamed Drainage 3**

Unlike the other drainages noted within the project area, Unnamed Drainage 3 is not mapped on the USGS 7.5Minute Quadrangles or in the NHD (USGS, multiple years). At the time of the site visits, the drainage was dry and unvegetated toward the center, and the OHWM was discernable only immediately north and south of two-track access road before fading into the surrounding uplands (Figure 2f; Appendix A, photo 4). It is unlikely that the drainage flows into another waterbody, even during high flow events (USGS, 2020). Because Unnamed Drainage 3 does not have an apparent surface water connection to a TNW, the feature may be non-jurisdictional. However, only the USACE has the final authority to determine jurisdictional status.

No wetlands associated with Unnamed Drainage 3 were delineated within the project area.

### **3.2.5 Unnamed Drainage 4**

Within the project area, Unnamed Drainage 4 is mapped as a solid blue line in the Fountain, Buttes and Fountain SE, Colorado 7.5-Minute Quadrangles (USGS, 1994a; USGS 1994b; USGS, 1974; Figure 1b). It is classified as "Intermittent Stream" by the NHD and "Riverine Intermittent" by the NWI (USGS, 2020; USFWS, 2018). At the time of the site visit, the OHWM was faint and discernable only in some areas, and not continuous (Figure 2f and 2h; Appendix A, photo 5). Several human-made impoundments intersected the drainage, which resulted in the formation of several stock ponds. The drainage, including the stock ponds, was dry during the time of the site visits, and likely only flows during seasonally wet periods or storm events. During these times, the drainage presumably flows southeast toward Williams Creek, which ultimately discharges into the Arkansas River, a TNW (USGS, 2020). Because water from Unnamed Drainage 4 may ultimately flow into a TNW, the feature may be jurisdictional. However, only the USACE has the final authority to determine jurisdictional status.

No wetlands associated with Unnamed Drainage 4 were delineated within the project area.

### **3.2.6 Unnamed Drainage 5**

Unnamed Drainage 5 is mapped as a solid blue line on the Fountain, Colorado 7.5-Minute Quadrangle within the project area (USGS, 1994a; Figure 1a). It is classified as "Intermittent Stream" by the NHD and "Riverine Intermittent" by the NWI (USGS, 2020; USFWS, 2018). At the time of the site visits, the OHWM was faint and not continuous (Figure 2c; Appendix A, photo 6). A large human-made impoundment was noted at the western portion of the drainage, and several areas of OHWM were mapped. This area was likely several smaller drainages in the past but has been altered into a main impoundment which likely collects stormwater and feeds the drainage to the south. The drainage, including the impoundment, was dry during the time of the site visits, and likely only flows during seasonally wet periods or storm events. During these times, the drainage appears to flow southeast toward Williams Creek, which ultimately discharges into the Arkansas River, a TNW (USGS, 2020). Because water from Unnamed Drainage 5 may ultimately flow into a TNW, the feature may be jurisdictional. However, only the USACE has the final authority to determine jurisdictional status.

No wetlands associated with Unnamed Drainage 5 were delineated within the project area.

### **3.2.7 Unnamed Drainage 6 and Associated Wetlands (WL-13 through WL-21)**

Unnamed Drainage 6 is mapped as a dashed blue line on the Fountain NE, Colorado 7.5-Minute Quadrangle (USGS, 1961; Figure 1a). It is classified as "Intermittent Stream" by the NHD and "Riverine Intermittent" by the NWI (USGS, 2020; USFWS, 2018). At the time of the site visit, the drainage was dry, with a continuous and often incised channel within the OHWM (Figure 2b, 2c and 2d; Appendix A, photo 7). Some pooling water was observed in lower-lying areas. The drainage likely only flows during seasonally wet periods or storm events. During these times, the drainage appears to flow southeast toward Williams Creek, which ultimately discharges into the Arkansas River, a TNW (USGS, 2020). Because water from Unnamed Drainage 6 may ultimately flow into a TNW, the feature may be jurisdictional. However, only the USACE has the final authority to determine jurisdictional status.

Nine wetlands associated with Unnamed Drainage 6 were delineated within the project area: WL-13, WL-14, WL-15, WL-16, WL-17, WL-18, WL-19, WL-20 and WL-21 (Table 2; Figure 2b, 2c and 2d; Appendix A, photos 15 thru 17). All wetlands were PEM wetlands and were dominated by emergent vegetation (Cowardin et al., 1979). Some small areas of salt cedar were noted. The likely source of hydrology to these wetlands is from stormwater runoff associated with Unnamed Drainage 6. Three sampling points were excavated in the wetlands along the drainage: SP-07 in WL-13; SP-09 in WL-16; and SP-11 in WL-18 (Appendix B; Appendix A, photos 21 thru 23). Sampling points were not completed in all wetlands as characteristics were similar between

wetlands. In wetlands where sampling points were not completed, reference pits were excavated to confirm soils and hydrology.

### **3.2.8 Unnamed Pond I**

Within the project area, Unnamed Pond I is shown as an intermittent pond associated with a former unnamed drainage on the Fountain, Colorado 7.5-Minute Quadrangle (USGS, 1994a; Figure 1a). Based on USGS maps, it appears that this pond was likely connected to Unnamed Drainage 5 in the past; however, a dirt access road has been constructed between the pond and Unnamed Drainage 5, and Unnamed Pond I now appears to be hydrologically isolated (Figure 2a; Photo 8 in Photographic Log). The pond was dry at the time of the site visits. Because Unnamed Pond I does not have an apparent surface water connection to a TNW, the feature may be non-jurisdictional. However, only the USACE has the final authority to determine jurisdictional status.

No wetlands associated with Unnamed Pond I were delineated within the project area.

## 4. Conclusions

Pinyon has performed a delineation of non-wetland waters and wetlands for the Pike Solar Project area. The information in this report will be used to obtain an Approved Jurisdictional Determination for the features identified within the project area: Williams Creek and associated wetlands (WL-01 through WL-08); Unnamed Drainage 1; Unnamed Drainage 2 and associated wetlands (WL-09 through WL-12); Unnamed Drainage 3; Unnamed Drainage 4; Unnamed Drainage 5; Unnamed Drainage 6 and associated wetlands (WL-13 through WL-21); and Unnamed Pond 1. The outcome of the jurisdictional determination will be used to inform project design. If the USACE concludes that any of the features in the project area are non-jurisdictional, then the project will be able to proceed with project activities in those areas without obtaining a Section 404 permit. A Section 404 permit must be sought for dredge or fill activities in areas determined to be jurisdictional.

Five of the drainage features (Williams Creek, Unnamed Drainage 1, 4, 5 and 6) and their associated wetlands (WL-1 thru 8 and WL-13 thru WL-21) delineated within the project area have potential connection to the Arkansas River, a TNW, and may therefore be jurisdictional. However, these features are intermittent and/or ephemeral, have been altered by human activity (impoundments), are dependent on seasonally wet periods and stormwater, and did not have a continuous OHWM for their entire length. The remaining drainage features (Unnamed Drainage 2, Unnamed Drainage 3 and Unnamed Pond 1) and their associated wetlands (WL-09 thru WL-12) do not appear to have a connection to a TNW and may therefore be non-jurisdictional. Jurisdictional status will ultimately be determined by the USACE.

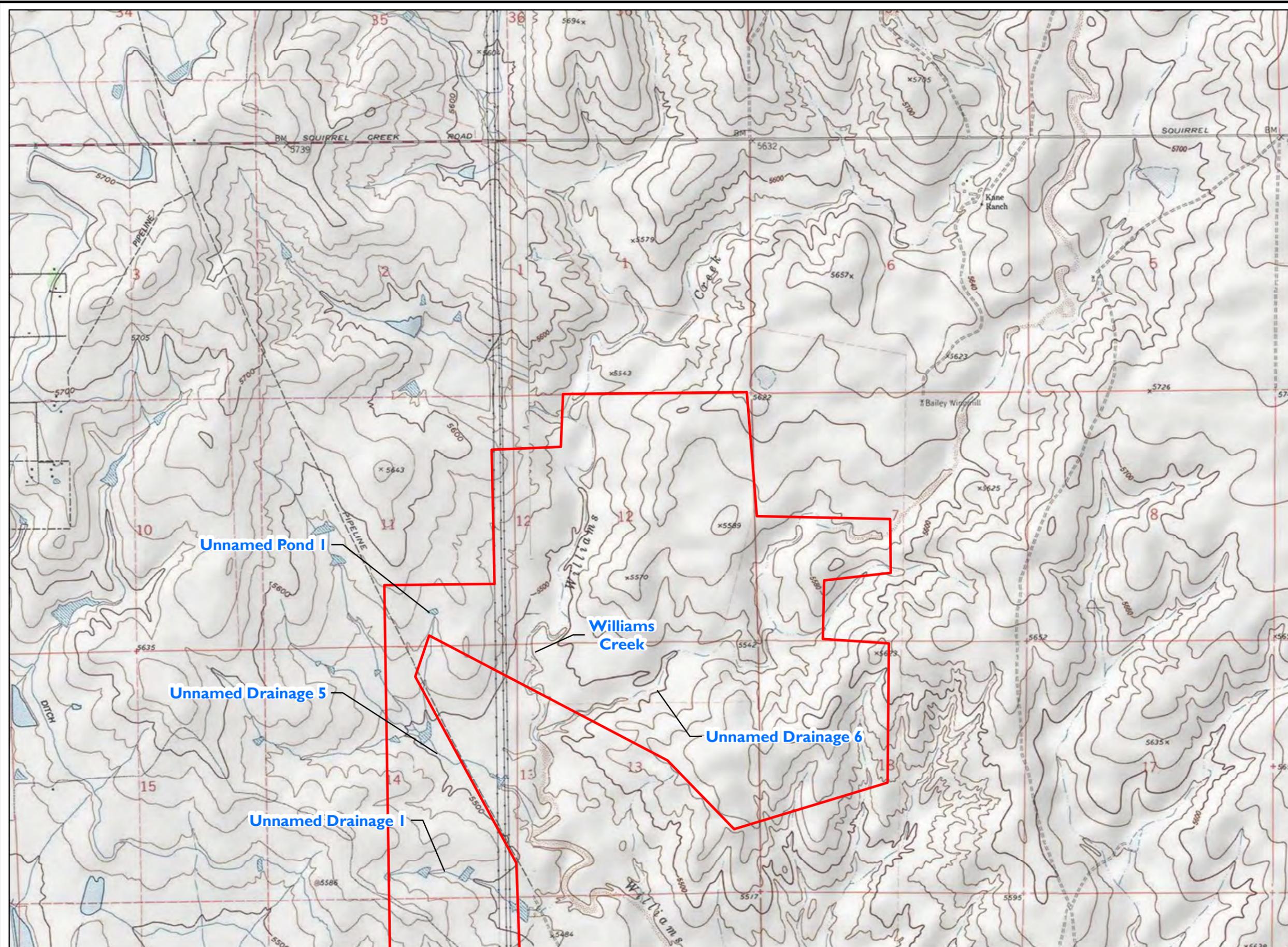
## **5. Limitations**

This report was prepared by Pinyon, at the request of and for the sole benefit of JSI, or any entity controlling, controlled by, or under common control with JSI. The conclusions and recommendations offered in this report are based on the data obtained from a limited number of samples, within a prescribed project area as described in the text. Soil, hydrologic, vegetation, biological and ecological conditions typically vary even over short distances, by season, by elevation, and by meteorological conditions. Thus, the nature and extent of variations outside this biological investigation may not become evident except through further investigation. It is possible that ecological conditions may change from those observed, particularly over time.

## 6. References

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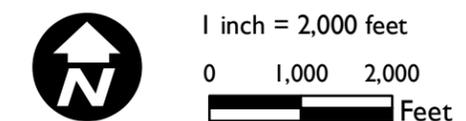
## Figures



### Legend

 Project Area

USGS 7.5" Topographic Map  
 Fountain, Colorado 1961 (revised 1994)  
 Fountain NE, Colorado 1961  
 Fountain SE, Colorado 1961 (revised 1974)  
 Buttes, Colorado 1961 (revised 1994)



**PROJECT LOCATION**  
 Pike Solar Project  
 El Paso County, Colorado

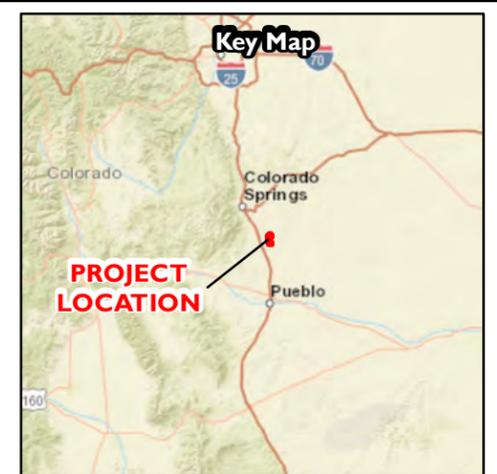
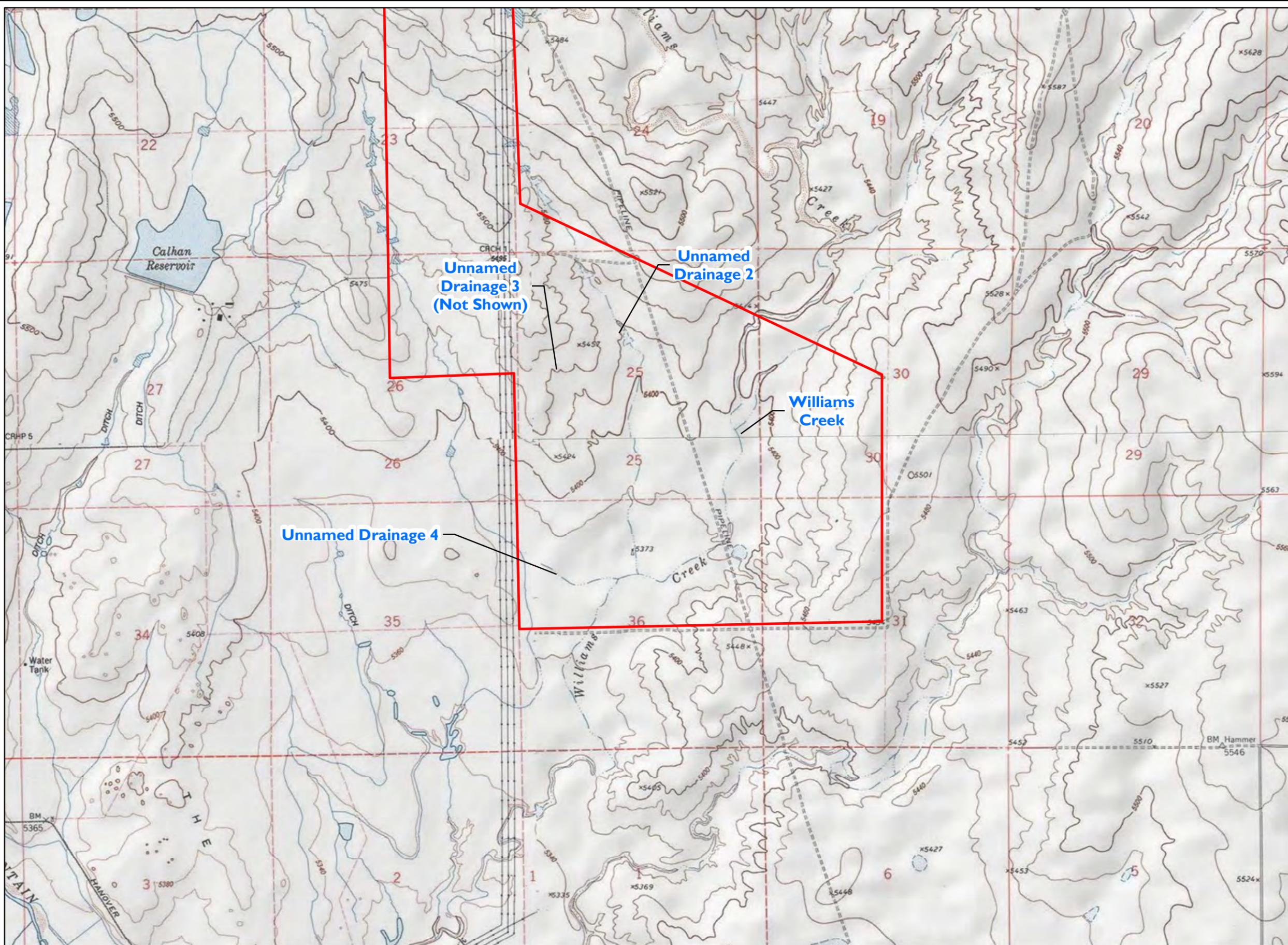
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Reviewed By: PMW      Date: 9/28/2020

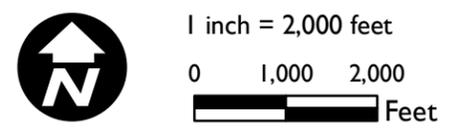
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**Legend**

 Project Area

USGS 7.5" Topographic Map  
 Fountain, Colorado 1961 (revised 1994)  
 Fountain NE, Colorado 1961  
 Fountain SE, Colorado 1961 (revised 1974)  
 Buttes, Colorado 1961 (revised 1994)



**PROJECT LOCATION**  
 Pike Solar Project  
 El Paso County, Colorado

Site Location: Multiple Sections, Township 16S, Ranges 64 and 65W, 6th Principal Meridian

Pinyon Project Number: I/20-1215-02

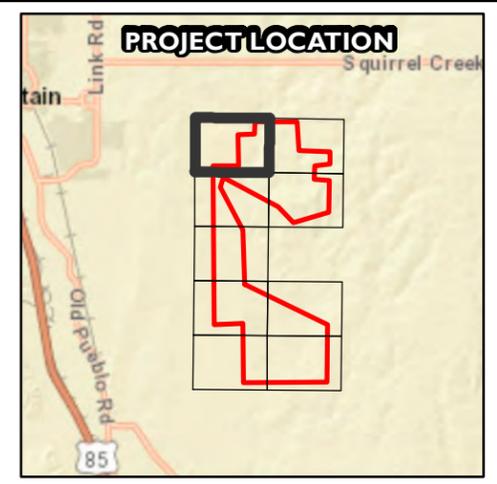
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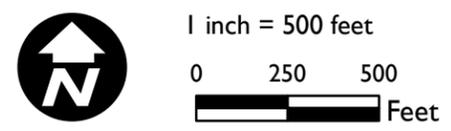
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### Legend

- Sampling Point
- Wetlands
- Non-Wetland Water (OHWM in Project Area)
- ~ Intermittent/Ephemeral Stream (No OHWM in Project Area)
- Project Area
- ~ Intermittent/Ephemeral Stream
- Flow Direction



### NON-WETLAND WATERS AND WETLANDS

Pike Solar Project  
El Paso County, Colorado

Site Location: Multiple Sections, Township 16S, Ranges 64 and 65W, 6th Principal Meridian

Pinyon Project Number: I/20-1215-02

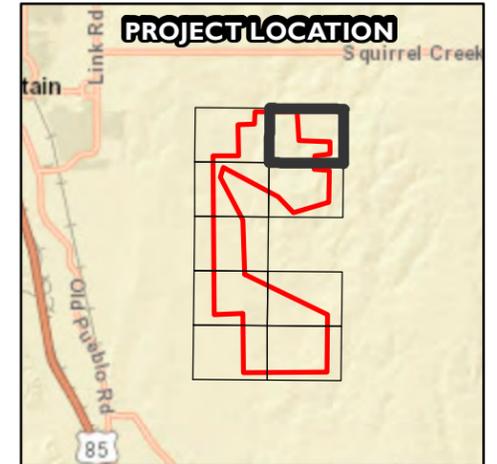
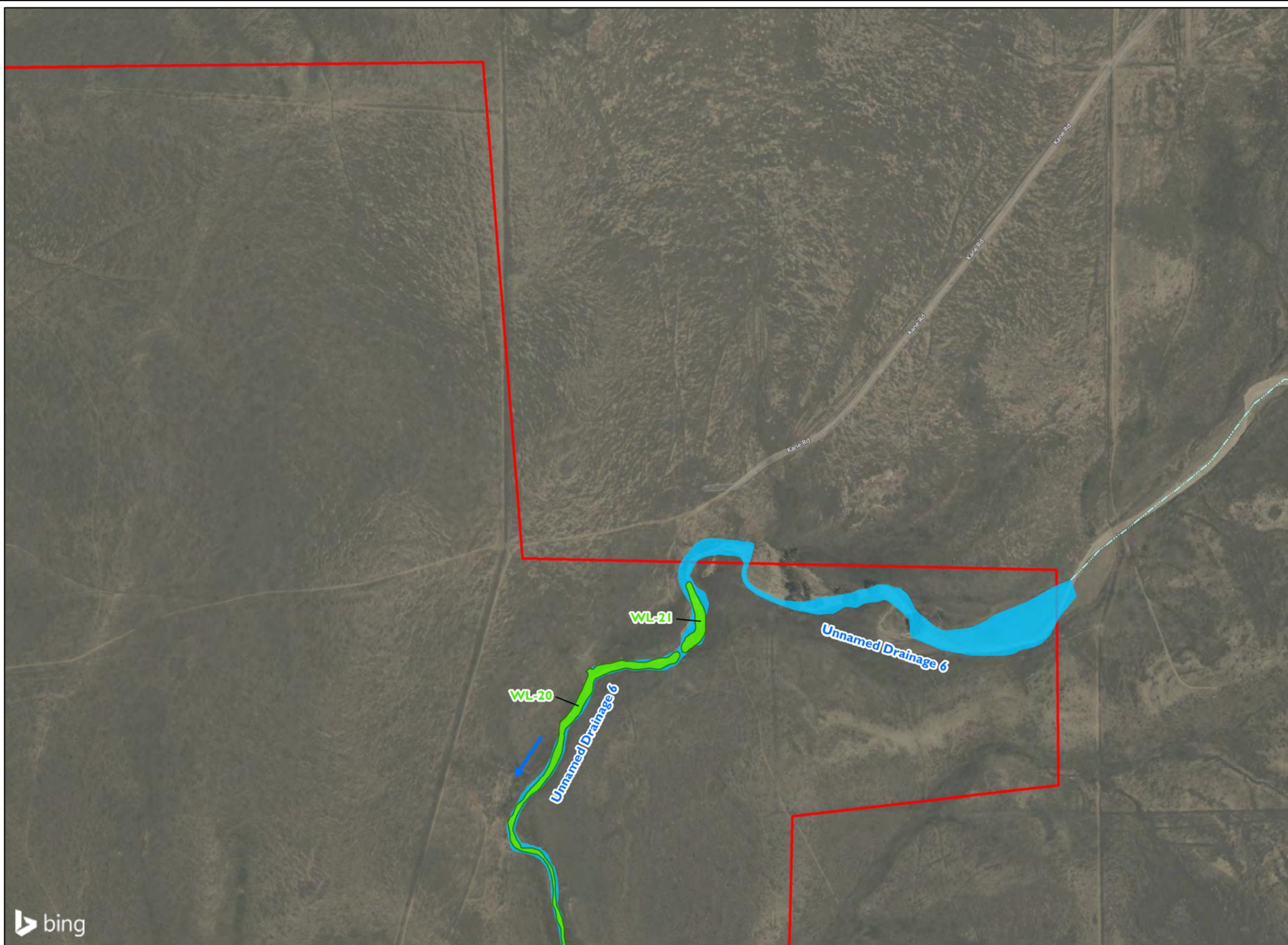
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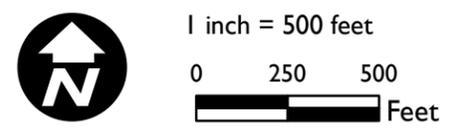
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### Legend

- Sampling Point
- Wetlands
- Non-Wetland Water (OHWM in Project Area)
- ~ Intermittent/Ephemeral Stream (No OHWM in Project Area)
- Project Area
- ~ Intermittent/Ephemeral Stream
- Flow Direction



**NON-WETLAND WATERS AND WETLANDS**  
 Pike Solar Project  
 El Paso County, Colorado

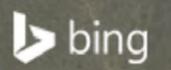
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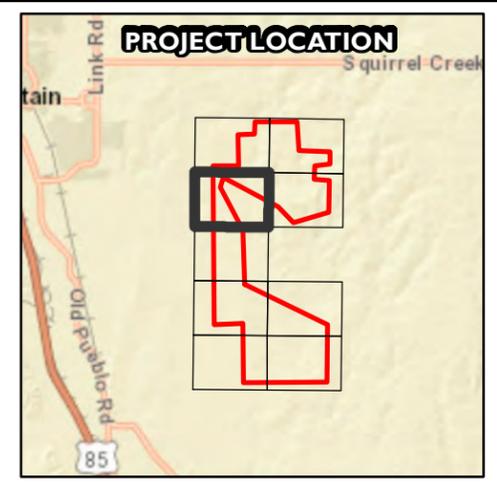
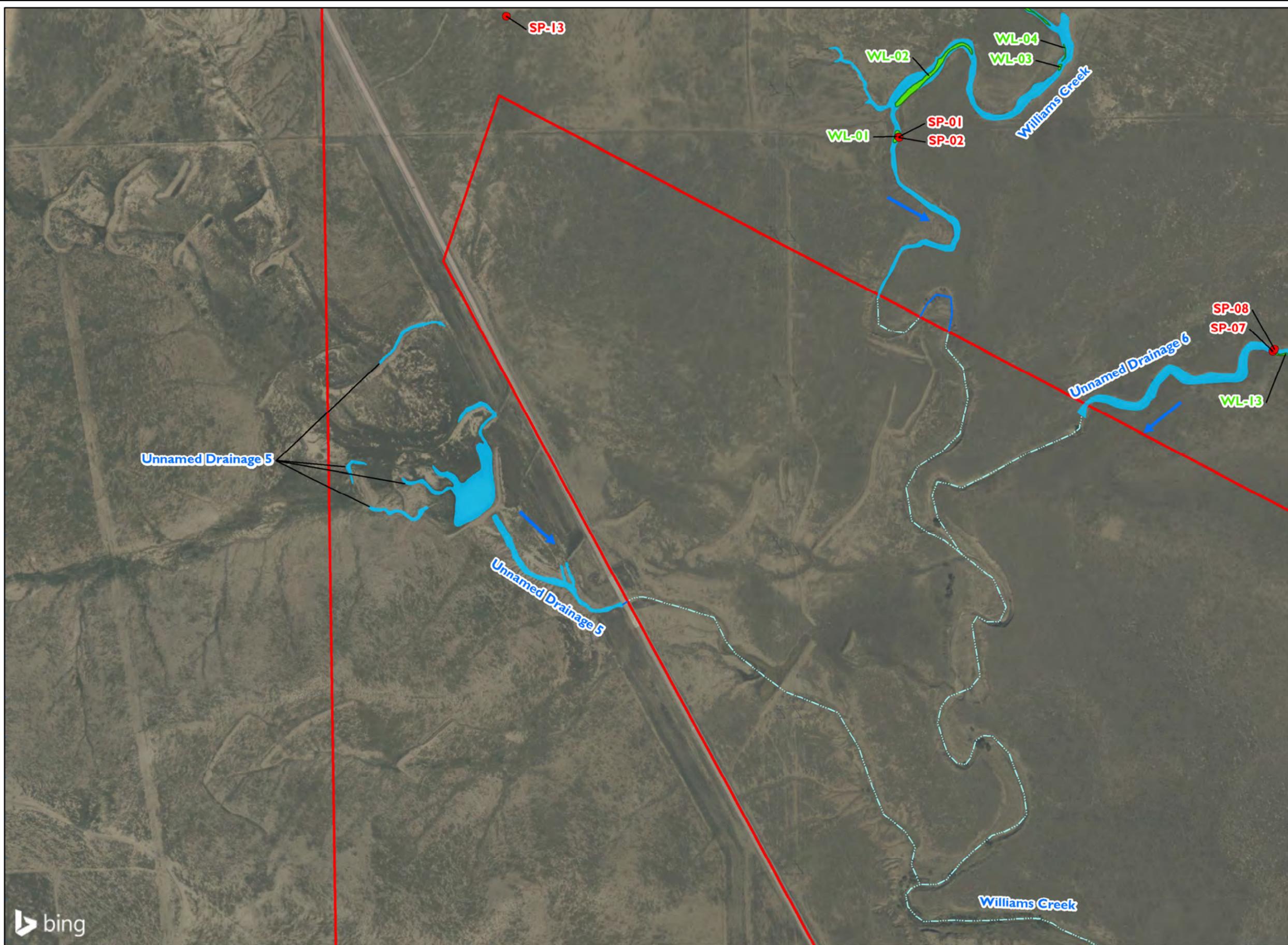
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Reviewed By: PMW      Date: 10/2/2020

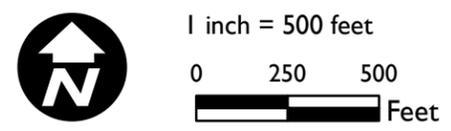
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**Legend**

- Sampling Point
- Wetlands
- Non-Wetland Water (OHWM in Project Area)
- ~ Intermittent/Ephemeral Stream (No OHWM in Project Area)
- ~ Intermittent/Ephemeral Stream
- Project Area
- Flow Direction



**NON-WETLAND WATERS AND WETLANDS**  
 Pike Solar Project  
 El Paso County, Colorado

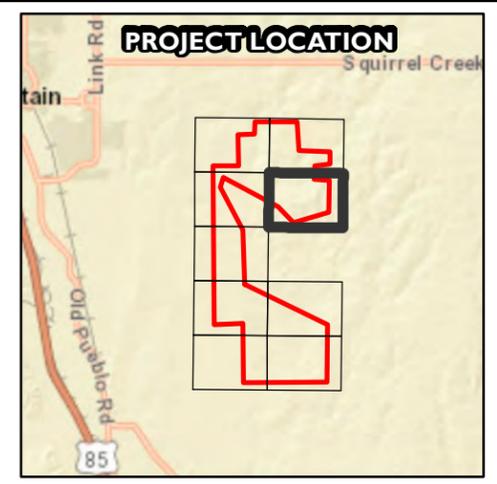
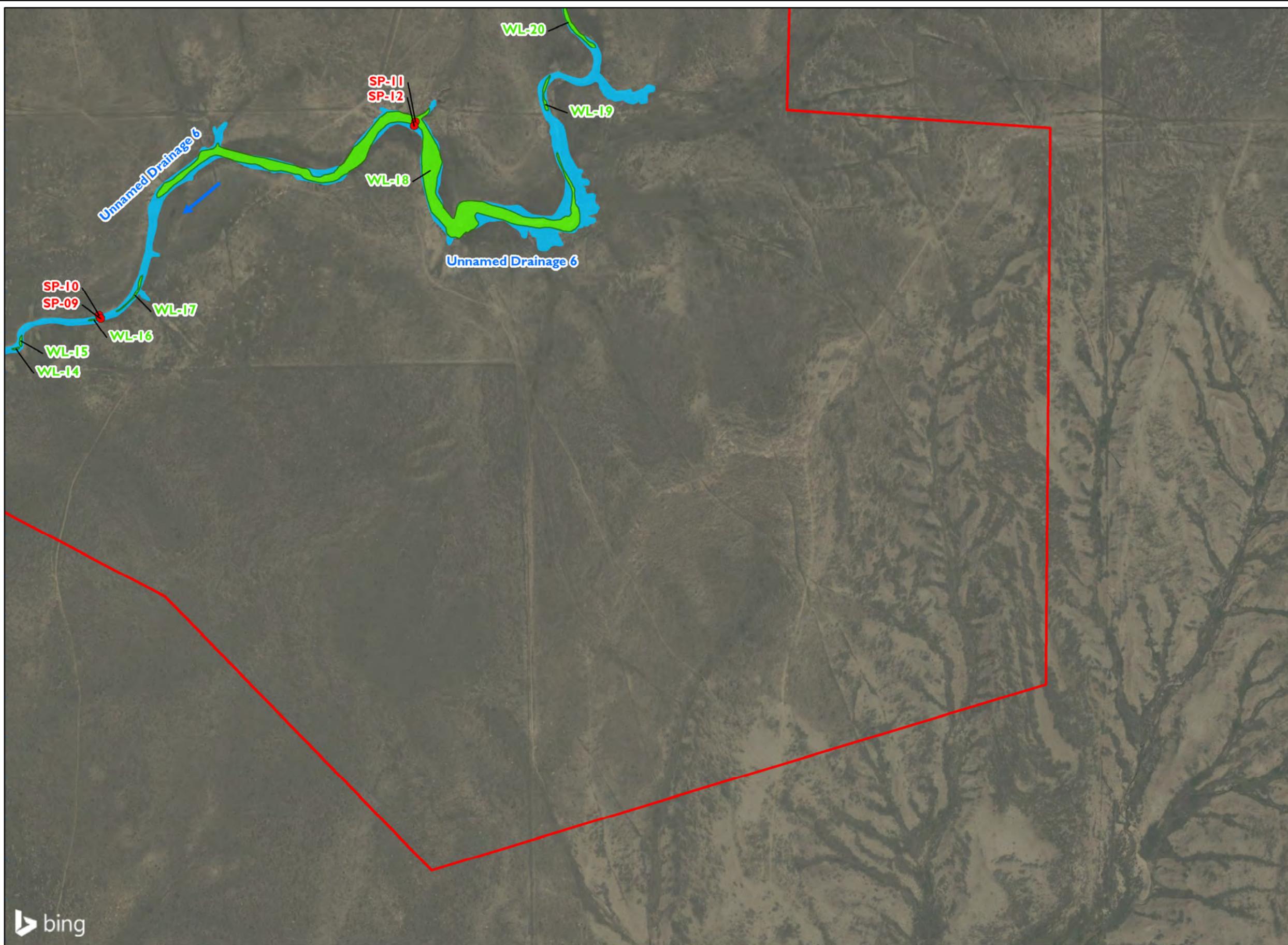
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Pinyon Project Number: I/20-1215-02

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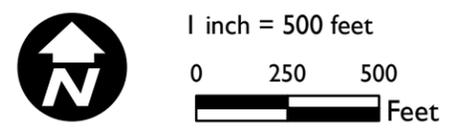
Reviewed By: PMW      Date: 10/2/2020

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**Legend**

- Sampling Point
- Wetlands
- Non-Wetland Water (OHWM in Project Area)
- ~ Intermittent/Ephemeral Stream (No OHWM in Project Area)
- Project Area
- ~ Intermittent/Ephemeral Stream
- Flow Direction



**NON-WETLAND WATERS AND WETLANDS**  
 Pike Solar Project  
 El Paso County, Colorado

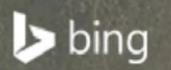
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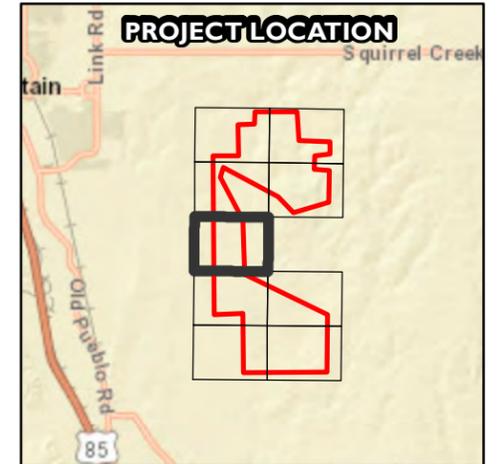
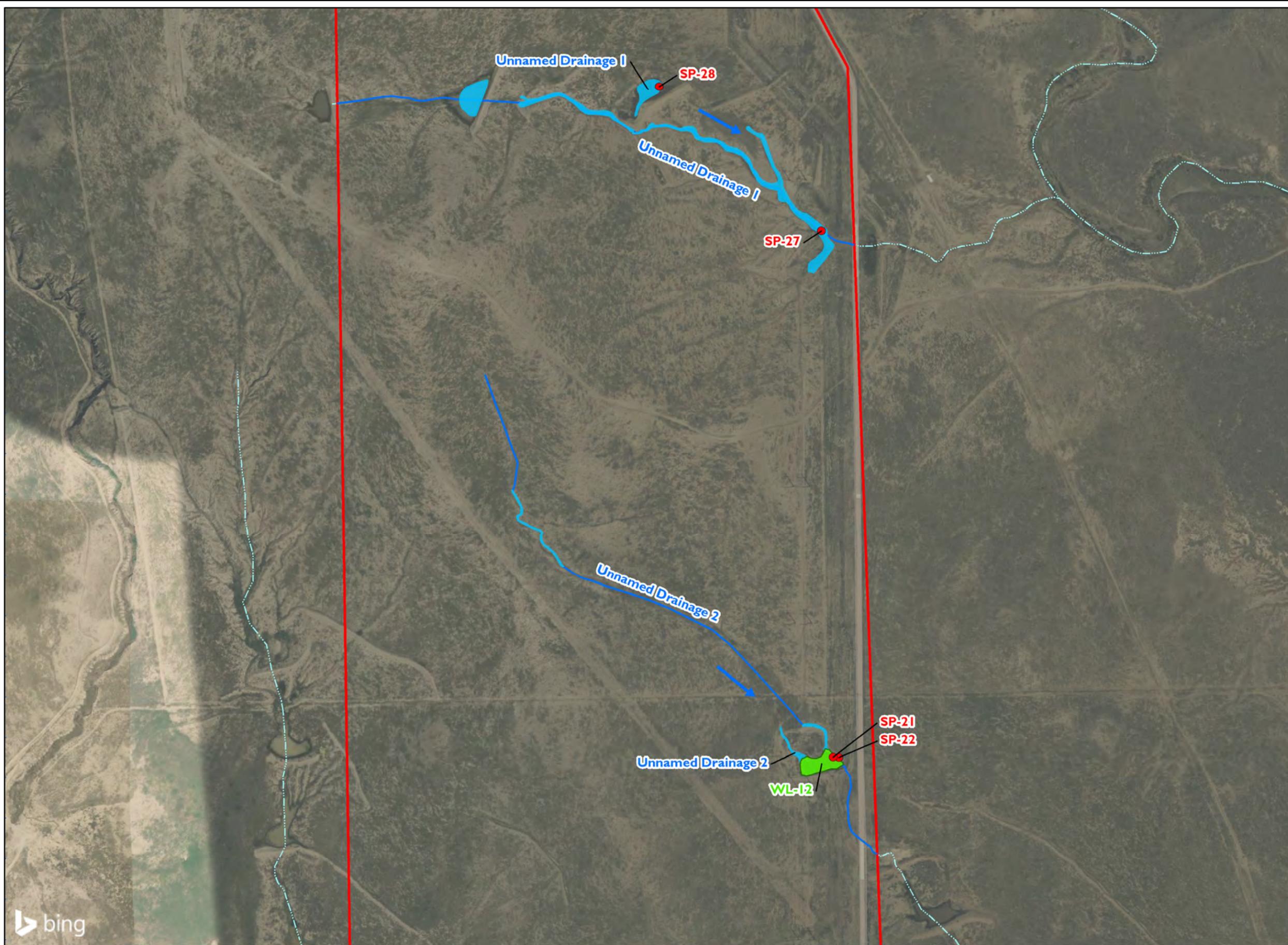
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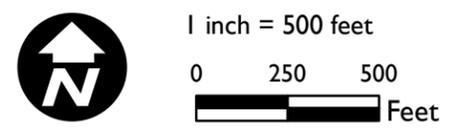
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**Legend**

- Sampling Point
- Wetlands
- Non-Wetland Water (OHWM in Project Area)
- ~ Intermittent/Ephemeral Stream (No OHWM in Project Area)
- Project Area
- ~ Intermittent/Ephemeral Stream
- Flow Direction



**NON-WETLAND WATERS AND WETLANDS**  
 Pike Solar Project  
 El Paso County, Colorado

Site Location: Multiple Sections, Township 16S, Ranges 64 and 65W, 6th Principal Meridian

Pinyon Project Number: I/20-1215-02

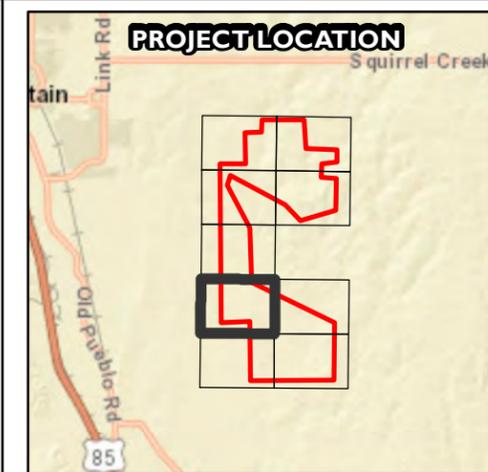
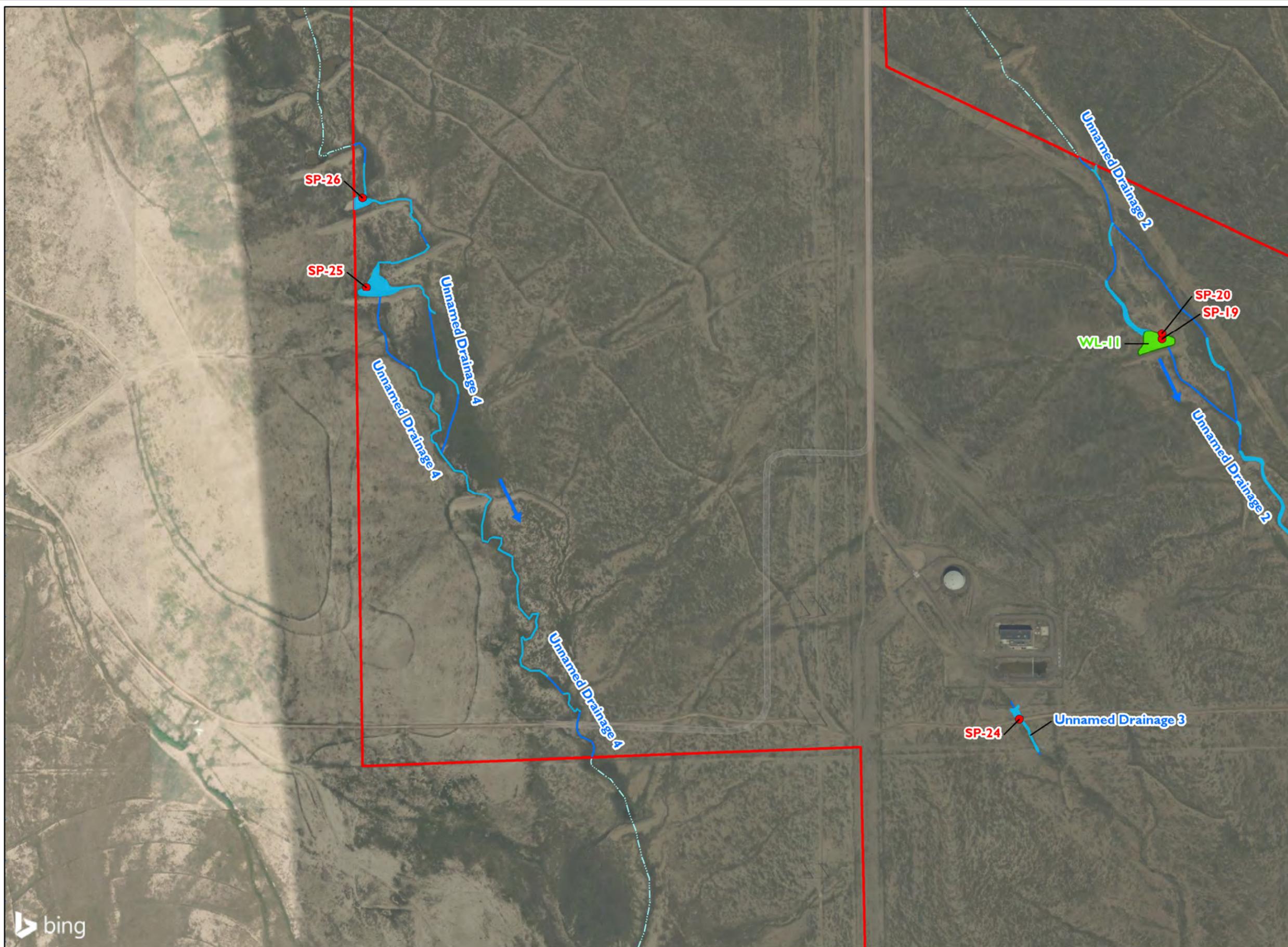
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Figure: 2e

Reviewed By: PMW

Date: 10/2/2020

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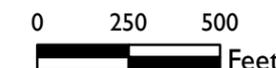


### Legend

- Sampling Point
- Wetlands
- Non-Wetland Water (OHWM in Project Area)
- ~ Intermittent/Ephemeral Stream (No OHWM in Project Area)
- Project Area
- ~ Intermittent/Ephemeral Stream
- Flow Direction



1 inch = 500 feet



### NON-WETLAND WATERS AND WETLANDS

Pike Solar Project  
El Paso County, Colorado

Drawn By: MJS/JAF

Figure: 2f

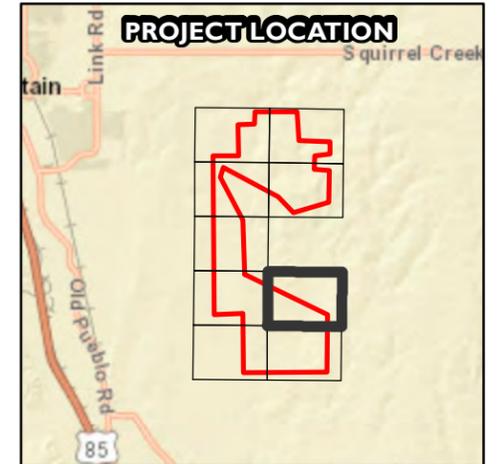
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Date: 10/2/2020

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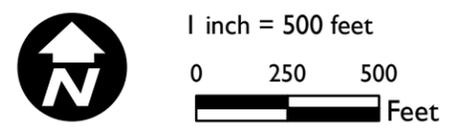
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**Legend**

- Sampling Point
- █ Wetlands
- █ Non-Wetland Water (OHWM in Project Area)
- ~ Intermittent/Ephemeral Stream (No OHWM in Project Area)
- ▭ Project Area
- ~ Intermittent/Ephemeral Stream
- Flow Direction



**NON-WETLAND WATERS AND WETLANDS**  
 Pike Solar Project  
 El Paso County, Colorado

Site Location: Multiple Sections, Township 16S, Ranges 64 and 65W, 6th Principal Meridian

Pinyon Project Number: I/20-1215-02

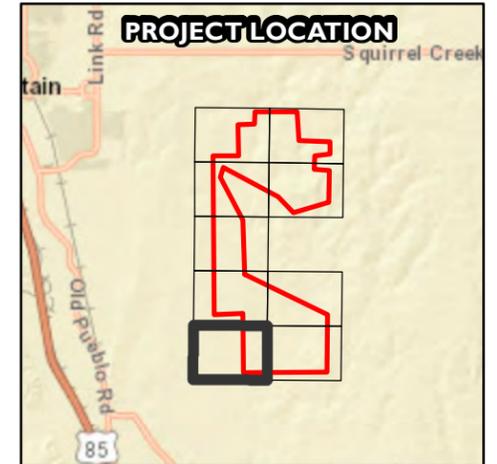
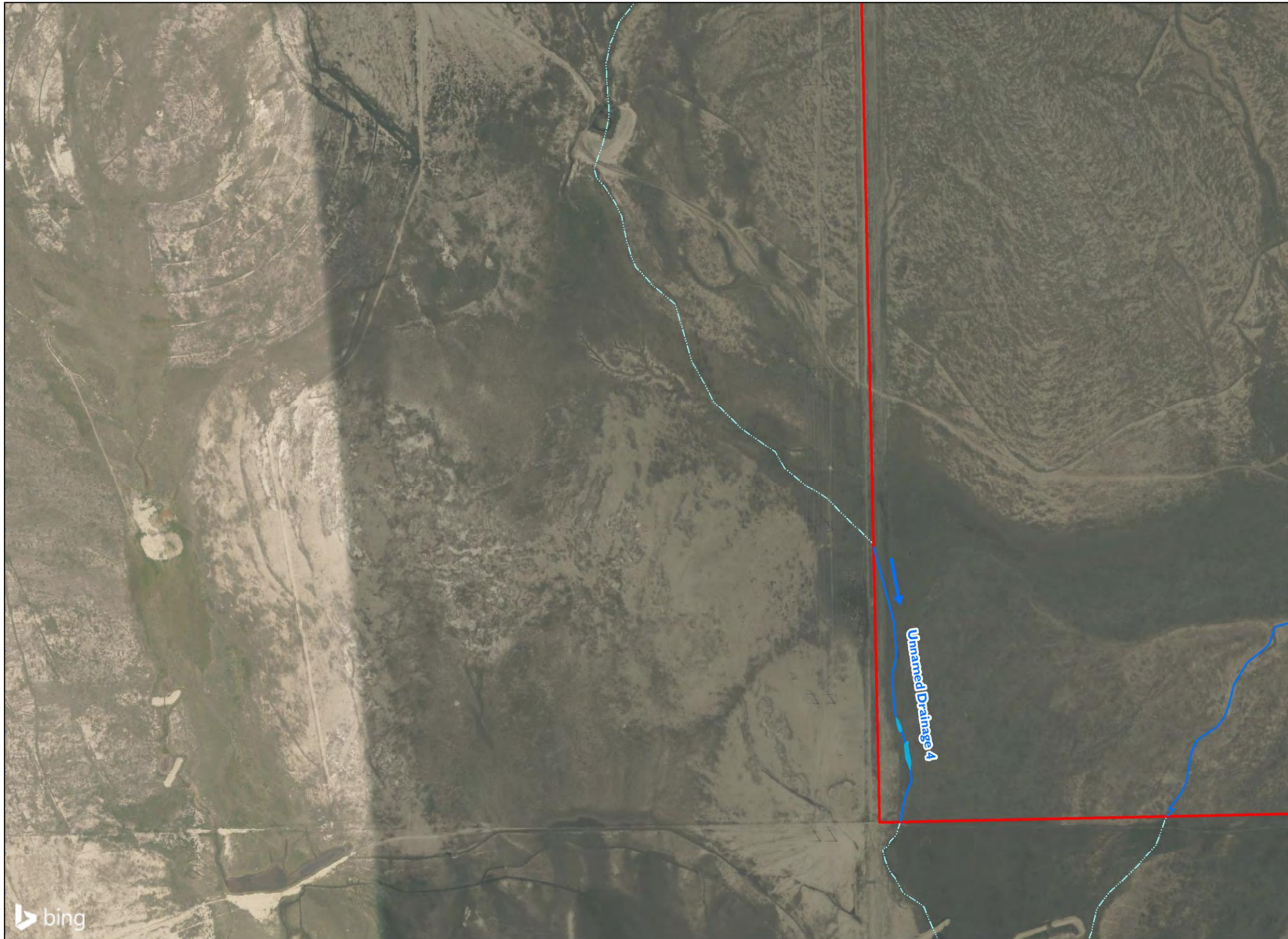
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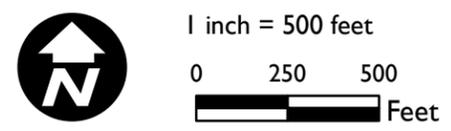
Date: 10/2/2020

Document Path: Z:\PROJECTS\2020\120121502 Juwi Pike Solar Project\Figures\ArcMap\MXD\BIO02\_WUS\_PikeSolar.mxd



**Legend**

- Sampling Point
- Wetlands
- Non-Wetland Water (OHWM in Project Area)
- ~ Intermittent/Ephemeral Stream (No OHWM in Project Area)
- Project Area
- ~ Intermittent/Ephemeral Stream
- Flow Direction



**NON-WETLAND WATERS AND WETLANDS**  
 Pike Solar Project  
 El Paso County, Colorado

Site Location: Multiple Sections, Township 16S, Ranges 64 and 65W, 6th Principal Meridian

Pinyon Project Number: I/20-1215-02

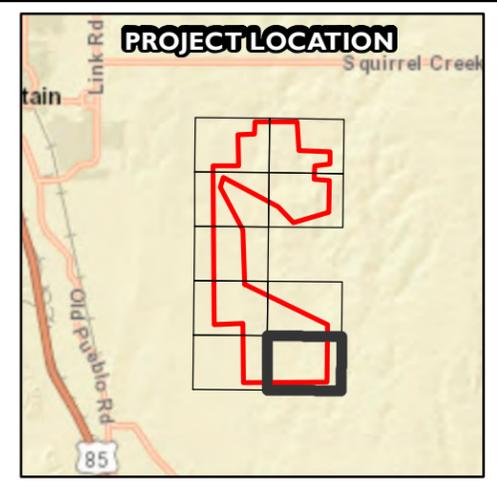
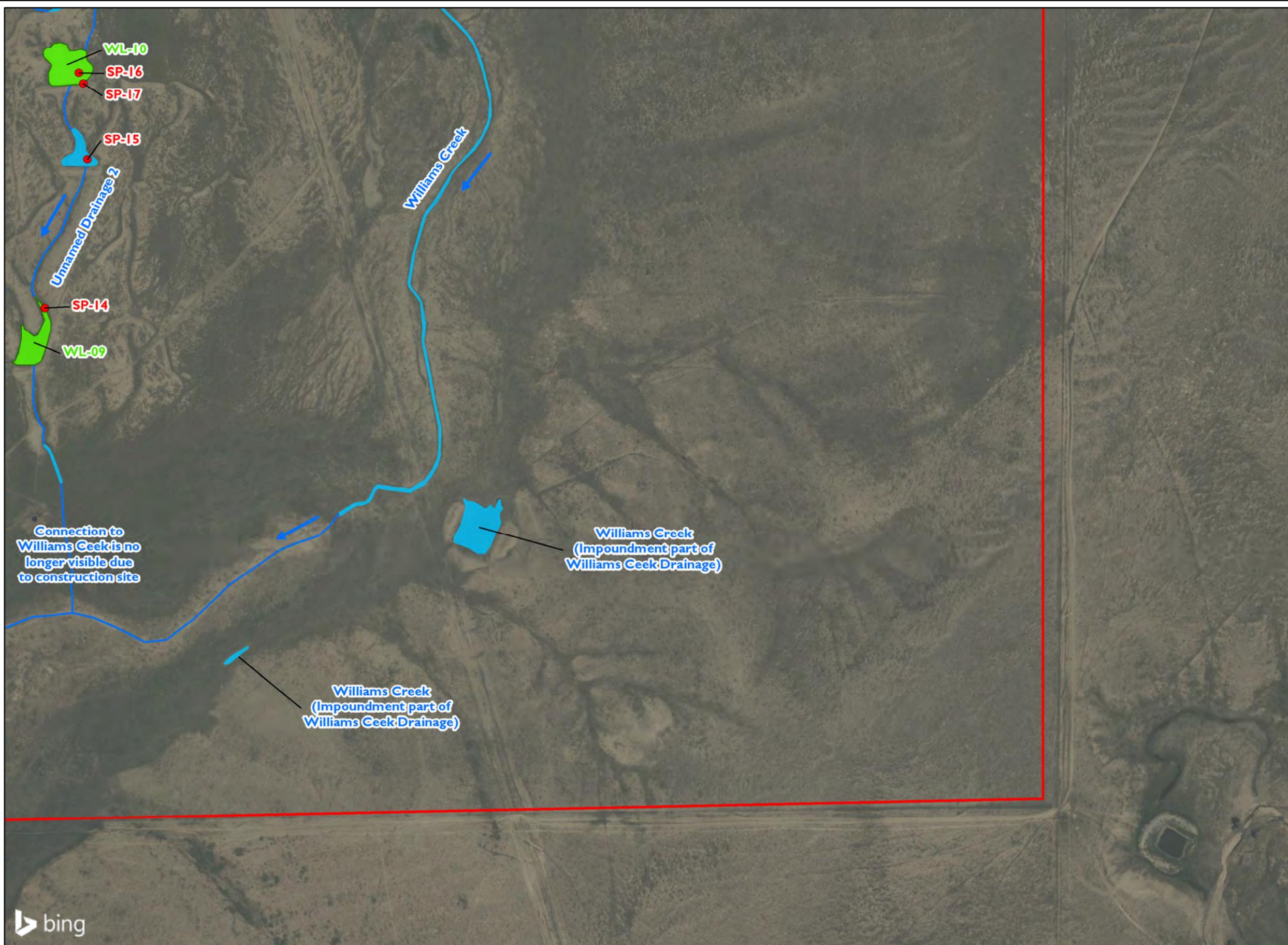
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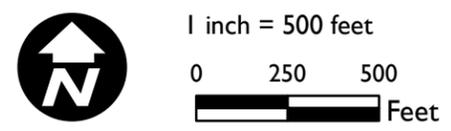
Date: 10/2/2020

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**Legend**

- Sampling Point
- Wetlands
- Non-Wetland Water (OHWM in Project Area)
- ~ Intermittent/Ephemeral Stream (No OHWM in Project Area)
- Project Area
- ~ Intermittent/Ephemeral Stream
- Flow Direction



**NON-WETLAND WATERS AND WETLANDS**  
 Pike Solar Project  
 El Paso County, Colorado

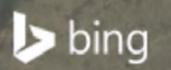
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Pinyon Project Number: I/20-1215-02

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Reviewed By: PMW      Date: 10/2/2020

Document Path: Z:\PROJECTS\2020\121502 Juwi Pike Solar Project\Figures\ArcMap\MXD\BIO\2\_WUS\_PikeSolar.mxd



## Tables

**Table 1. Non-Wetland Water Features Information**

Waterbody Name	Figure Number	Latitude/ Longitude <sup>1</sup>	Flow Type	Downstream Connection	Acres Delineated
Williams Creek	2a, 2c, 2g and 2i	38.665398/-104.623097	Intermittent	Arkansas River <sup>2</sup>	8.85
Unnamed Drainage 1	2e	38.650457/-104.628062	Intermittent	Williams Creek	1.88
Unnamed Drainage 2	2e, 2f, 2g and 2i	38.630774/-104.618255	Intermittent	Williams Creek	1.32
Unnamed Drainage 3	2f	38.629237/-104.623995	Intermittent	Williams Creek	0.08
Unnamed Drainage 4	2f and 2h	38.632507/-104.633944	Intermittent	Williams Creek	0.88
Unnamed Drainage 5	2c	38.658921/-104.632920	Intermittent	Williams Creek	2.23
Unnamed Drainage 6	2b, 2c and 2d	38.664486/-104.608105	Intermittent	Williams Creek	12.56
Unnamed Pond 1	2a	38.666952/-104.632783	Intermittent	Williams Creek	0.86

<sup>1</sup>World Geodetic System [WGS] 84 Decimal Degrees

<sup>2</sup>Arkansas River is a Traditional Navigable Water (TNW)

**Table 2. Wetland Features Information**

Wetland ID	Associated Waterbody	Figure Number	Latitude/ Longitude <sup>1</sup>	Cowardin Classification (Cowardin et al., 1979)	Hydrology Source	Wetland Determination Data Form IDs <sup>2,3,4</sup>	Acres Delineated
WL-01	Williams Creek	2c	38.664759/-104.625707	PEM	Stormwater	SP-01 (SP-02)	0.04
WL-02		2c	38.665650/-104.625058	PEM	Stormwater	None	0.27
WL-03		2c	38.665744/-104.622676	PEM	Stormwater	None	0.01
WL-04		2c	38.665952/-104.622592	PEM	Stormwater	None	0.01
WL-05		2a	38.668330/-104.623052	PEM	Stormwater	SP-03 (SP-04)	1.00
WL-06		2a	38.672502/-104.621766	PEM	Stormwater	None	1.34
WL-07		2a	38.677083/-104.620904	PSS	Stormwater	SP-05 (SP-06)	0.06
WL-08		2a	38.678987/-104.621714	PEM	Stormwater	None	0.11
WL-09	Unnamed Drainage 2	2i	38.621048/-104.618422	PEM	Stormwater	SP-14	0.69
WL-10		2i	38.624981/-104.617728	PEM	Stormwater	SP-16 (SP-17)	0.99
WL-11		2f	38.634575/-104.621371	PEM	Stormwater	SP-19 (SP-20)	0.33
WL-12		2e	38.642131/-104.627385	PEM	Stormwater	SP-21 (SP-22)	0.41
WL-13	Unnamed Drainage 6	2c	38.661581/-104.618685	PEM	Stormwater	SP-07 (SP-08)	0.02
WL-14		2d	38.661636/-104.618235	PEM	Stormwater	None	0.01
WL-15		2d	38.661744/-104.618141	PEM	Stormwater	None	0.01
WL-16		2d	38.662061/-104.616728	PEM	Stormwater	SP-09 (SP-10)	0.02
WL-17		2d	38.662432/-104.616075	PEM	Stormwater	None	0.04
WL-18		2d	38.664073/-104.611377	PEM	Stormwater	SP-11 (SP-12)	4.01
WL-19		2d	38.665257/-104.608386	PEM	Stormwater	None	0.05
WL-20		2b and 2d	38.668749/-104.607592	PEM	Stormwater	None	1.73
WL-21		2b	38.671217/-104.605567	PEM	Stormwater	None	0.47

<sup>1</sup>World Geodetic System [WGS] 84 Decimal Degrees

<sup>2</sup>See Appendix B for Wetland Determination Data Forms

<sup>3</sup> Corresponding Upland Sampling Point in ( )

<sup>4</sup>Sampling points were not excavated in all wetlands as characteristics were similar between wetlands. In wetlands where sampling points were not excavated, reference pits were completed to confirm soils and hydrology.

PEM = Palustrine Emergent

PSS = Palustrine Scrub Shrub

## Appendices

## **Appendix A Photographic Log**

Photo 1. View of Williams Creek showing a heavily incised channel. Photo taken facing northeast.



Photo 2. View of Unnamed Drainage I. The ordinary high water mark (OHWM) was faint and intermittent. Photo facing northwest.



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**Pike Solar Project**

Photographic Log

Photos taken in July 2019 and September 2020

Photo 3. View of  
Unnamed  
Drainage 2.  
Photo taken  
facing north.



Photo 4. View of  
Unnamed  
Drainage 3.  
Drainage was  
dry at the time  
of the site visit.



Photo 5. View of Unnamed Drainage 4. Drainage was dry at the time of the site visit. Photo taken facing east.



Photo 6. View of Unnamed Drainage 5. The drainage was dry at the time of the site visit and the OHWM was faint and not continuous. Photo taken facing northwest.



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**Pike Solar Project**

Photographic Log

Photos taken in July 2019 and September 2020

Photo 7. View of Unnamed Drainage 6 showing an incised channel. Photo taken facing northeast.



Photo 8. View of Unnamed Pond I. Photo taken facing southwest.



Photo 9. View of WL-05 within the OHWM of Williams Creek. Photo taken facing south.



Photo 10. View of VL-06 within the OHWM of Williams Creek. Photo taken facing northwest.



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**Pike Solar Project**

Photographic Log

Photos taken in July 2019 and September 2020

Photo 11. View of WL-07 within the OHWM of Williams Creek. Photo taken facing southeast.



Photo 12. View of WL-09 along Unnamed Drainage 2. Photo taken facing west.



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**Pike Solar Project**

Photographic Log

Photos taken in July 2019 and September 2020

Photo 13. View of WL-11 along Unnamed Drainage 2. Photo taken facing south.



Photo 14. View of WL-12 along Unnamed Drainage 2. Photo taken facing east.



Photo 15. View of WL-16 within the OHWM of Unnamed Drainage 6. Photo taken facing west.



Photo 16. View of WL-17 within the OHWM of Unnamed Drainage 6. Photo taken facing northeast.



Photo 17. View of WL-20 within the OHWM of Unnamed Drainage 6. Photo taken facing west.



Photo 18. View of Sampling Point (SP)-01 in WL-01. Some standing water of Williams Creek noticeable in the background. Photo taken facing north.



Photo 19. View of SP-03 in WL-05. Photo taken facing east.



Photo 20. View of SP-05 in WL-07. Photo taken facing south.



Photo 21. View  
of SP-07 in WL-  
13.



Photo 22. View  
of SP-09 in WL-  
16.



Photo 23. View of SP-11 in WL-18. Standing water within Unnamed Drainage 6 in the background. Photo taken facing north.



Photo 24. View of SP-21 in WL-12.



## **Appendix B Wetland Determination Data Forms**

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso County Sampling Date: 9/7/2020  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-01  
 Investigator(s): PJW & TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 13, Township 16 South, Range 65 West  
 Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): Western Great Plains (LRR G) Lat: 38.664755° Long: -104.625672° Datum: WGS84  
 Soil Map Unit Name: Ustic Torrifluvents, loamy NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: SP-01 was excavated within the ordinary high water mark of Williams Creek in an area dominated by Schoenoplectus pungens. SP-01 pairs with WL-01 and upland pit SP-02.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u></td> <td>(A) <u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>NaN</u>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u>	(A) <u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>0</u>	(A) <u>0</u> (B)																	
<u>3</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>Tamarix chinensis</u>	<u>3</u>	<u>N</u>	<u>FACW</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>3</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Schoenoplectus pungens</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>															
2. <u>Bouteloua dactyloides</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
3. <u>Chenopodium album</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>67</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
<u>33</u> = Total Veg Cover																		
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																		

Remarks: D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Vegetation passes the Rapid Test. Hydrophytic vegetation is present.

**SOIL**

Sampling Point: SP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 1	10YR 5/2	100					clay loam	no redox noted
1 - 14	10YR 4/2	94	10YR 3/6	6	C	M	clay loam	prominent redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)	

<b>Restrictive Layer (if present):</b> Type: <u>hard clay pan</u> Depth (inches): <u>14</u>	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:  
Hydric soil indicator Depleted Matrix (F3) noted. Hydric soil is present.

**HYDROLOGY**

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> (where not tilled)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input checked="" type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input checked="" type="checkbox"/> Geomorphic Position (D2)
	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe)    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
A Salt Crust (B11) was noted adjacent to the sampling pit. Sampling pit was excavated within the ordinary high water mark of Williams Creek; therefore, Geomorphic Position (D2) was present. Vegetation in the area passed the FAC-Neutral Test (D5). Wetland hydrology is present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso County Sampling Date: 9/7/2020  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-02  
 Investigator(s): PJW & TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 13, Township 16 South, Range 65 West  
 Landform (hillslope, terrace, etc.): creek bank Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): Western Great Plains (LRR G) Lat: 38.664742° Long: -104.625659° Datum: WGS84  
 Soil Map Unit Name: Ustic Torrifluvents, loamy NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: SP-02 was excavated in the bank of Williams Creek in an area dominated by upland vegetation. SP-02 pairs with wetland pit SP-01.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>3</u></td> <td>x 2 = <u>6</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>68</u></td> <td>x 4 = <u>272</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>71</u> (A)</td> <td><u>278</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.915492957746479</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>3</u>	x 2 = <u>6</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>68</u>	x 4 = <u>272</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>71</u> (A)	<u>278</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>3</u>	x 2 = <u>6</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>68</u>	x 4 = <u>272</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>71</u> (A)	<u>278</u> (B)																	
<u>3</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>Tamarix chinensis</u>	<u>3</u>	<u>N</u>	<u>FACW</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>3</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Bouteloua dactyloides</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Glycyrrhiza lepidota</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
3. <u>Chenopodium album</u>	<u>8</u>	<u>N</u>	<u>FACU</u>															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>68</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>32</u> <u>71</u> = Total Veg Cover																		

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
All dominants are FACW and/or OBL.  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:  
 D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Vegetation does not pass the Rapid Test, Dominance Test, or Prevalence Index Test. Hydrophytic vegetation is not present.

**SOIL**

Sampling Point: SP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 14	10YR 4/4	100					clay loam	no redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: 14  
 Depth (inches): hard clay pan

Hydric Soil Present? Yes  No

Remarks:

No hydric soil indicators noted. Hydric soil is not present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology indicators noted. Wetland hydrology is not present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso County Sampling Date: 9/7/2020  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-03  
 Investigator(s): PJW & TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 12, Township 16 South, Range 65 West  
 Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): Western Great Plains (LRR G) Lat: 38.667170° Long: -104.623155° Datum: WGS84  
 Soil Map Unit Name: Ustic Torrifluvents, loamy NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No _____
Remarks: SP-03 was excavated within the ordinary high water mark of Williams Creek in an area dominated by Typha angustifolia and Schoenoplectus pungens. SP-03 was excavated in WL-05 and pairs with upland pit SP-04.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)																
2. _____																				
3. _____																				
4. _____																				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u></td> <td>(A) <u>0</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>NaN</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u>	(A) <u>0</u> (B)	Prevalence Index = B/A = <u>NaN</u>	
Total % Cover of:	Multiply by:																			
OBL species _____	x 1 = <u>0</u>																			
FACW species _____	x 2 = <u>0</u>																			
FAC species _____	x 3 = <u>0</u>																			
FACU species _____	x 4 = <u>0</u>																			
UPL species _____	x 5 = <u>0</u>																			
Column Totals: <u>0</u>	(A) <u>0</u> (B)																			
Prevalence Index = B/A = <u>NaN</u>																				
<u>0</u> = Total Cover																				
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																				
1. <u>N/A</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
<u>0</u> = Total Cover																				
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																				
1. <u>Typha angustifolia</u>	40	Y	OBL																	
2. <u>Schoenoplectus pungens</u>	30	Y	OBL																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
<u>70</u> = Total Cover																				
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																				
1. <u>N/A</u>																				
2. _____																				
<u>0</u> = Total Cover																				
% Bare Ground in Herb Stratum <u>30</u> <u>70</u> = Total Veg Cover																				

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
All dominants are FACW and/or OBL.  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No \_\_\_\_\_

Remarks: D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Vegetation passes the Rapid Test. Hydrophytic vegetation is present.

**SOIL**

Sampling Point: SP-03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 4	10YR 2/1	50					silty clay	no redox noted
0 - 4	10YR 4/2	40	10YR 3/6	10	C	M	silty clay loam	prominent redox noted
4 - 18	20YR 2/1	100					silty clay	no redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

Hydric soil indicator Hydrogen Sulfide (A4) noted. Hydric soil is present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes  No \_\_\_\_\_ Depth (inches): 10  
 (includes capillary fringe)

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturation (A3) was noted at 10 inches depth. Sampling pit was excavated within the ordinary high water mark of Williams Creek; therefore, Geomorphic Position (D2) was present. Vegetation in the area passed the FAC-Neutral Test (D5). Wetland hydrology is present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso County Sampling Date: 9/7/2020  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-04  
 Investigator(s): PJW & TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 12, Township 16 South, Range 65 West  
 Landform (hillslope, terrace, etc.): bank of creek Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): Western Great Plains (LRR G) Lat: 38.667193° Long: -104.623244° Datum: WGS84  
 Soil Map Unit Name: Ustic Torrifluvents, loamy NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: SP-04 was excavated in the bank of Williams Creek in a sparsely vegetated area dominated by <i>Bouteloua dactyloides</i> . SP-04 pairs with wetland pit SP-03.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)																
2. _____																				
3. _____																				
4. _____																				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><u>        </u> Total % Cover of:</td> <td style="width: 50%;"><u>        </u> Multiply by:</td> </tr> <tr> <td>OBL species <u>        </u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>        </u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>        </u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>30</u></td> <td>x 4 = <u>120</u></td> </tr> <tr> <td>UPL species <u>        </u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>30</u> (A)</td> <td><u>120</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>4</u></td> </tr> </table>	<u>        </u> Total % Cover of:	<u>        </u> Multiply by:	OBL species <u>        </u>	x 1 = <u>0</u>	FACW species <u>        </u>	x 2 = <u>0</u>	FAC species <u>        </u>	x 3 = <u>0</u>	FACU species <u>30</u>	x 4 = <u>120</u>	UPL species <u>        </u>	x 5 = <u>0</u>	Column Totals: <u>30</u> (A)	<u>120</u> (B)	Prevalence Index = B/A = <u>4</u>	
<u>        </u> Total % Cover of:	<u>        </u> Multiply by:																			
OBL species <u>        </u>	x 1 = <u>0</u>																			
FACW species <u>        </u>	x 2 = <u>0</u>																			
FAC species <u>        </u>	x 3 = <u>0</u>																			
FACU species <u>30</u>	x 4 = <u>120</u>																			
UPL species <u>        </u>	x 5 = <u>0</u>																			
Column Totals: <u>30</u> (A)	<u>120</u> (B)																			
Prevalence Index = B/A = <u>4</u>																				
<u>0</u> = Total Cover																				
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																				
1. <u>N/A</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
<u>0</u> = Total Cover																				
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																				
1. <u>Bouteloua dactyloides</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>																	
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
<u>30</u> = Total Cover																				
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																				
1. <u>N/A</u>																				
2. _____																				
<u>0</u> = Total Cover																				
% Bare Ground in Herb Stratum <u>70</u> <u>30</u> = Total Veg Cover																				

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
All dominants are FACW and/or OBL.  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:  
 D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Vegetation does not pass the Rapid Test, Dominance Test, or Prevalence Index Test. Hydrophytic vegetation is not present.

**SOIL**

Sampling Point: SP-04

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 10	10YR 5/3	99	10YR 4/6	1	C	M	clay	distinct redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: hard clay pan  
 Depth (inches): 10

Hydric Soil Present? Yes  No

Remarks:

No hydric soil indicators noted. Hydric soil is not present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology indicators noted. Wetland hydrology is not present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso County Sampling Date: 9/7/2020  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-05  
 Investigator(s): PJW & TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 12, Township 16 South, Range 65 West  
 Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): Western Great Plains (LRR G) Lat: 38.677053° Long: -104.620874° Datum: WGS84  
 Soil Map Unit Name: Ustic Torrifluvents, loamy NWI classification: R4SBA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: SP-05 was excavated within the ordinary high water mark of Williams Creek in a sparsely vegetated area dominated by Tamarix chinensis. SP-05 was excavated in WL-07 and pairs with upland pit SP-06.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)																
2. _____																				
3. _____																				
4. _____																				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u></td> <td>(A) <u>0</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>NaN</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u>	(A) <u>0</u> (B)	Prevalence Index = B/A = <u>NaN</u>	
Total % Cover of:	Multiply by:																			
OBL species _____	x 1 = <u>0</u>																			
FACW species _____	x 2 = <u>0</u>																			
FAC species _____	x 3 = <u>0</u>																			
FACU species _____	x 4 = <u>0</u>																			
UPL species _____	x 5 = <u>0</u>																			
Column Totals: <u>0</u>	(A) <u>0</u> (B)																			
Prevalence Index = B/A = <u>NaN</u>																				
<u>8</u> = Total Cover																				
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																				
1. <u>Tamarix chinensis</u>	<u>8</u>	<u>Y</u>	<u>FACW</u>																	
2. _____																				
3. _____																				
4. _____																				
5. _____																				
<u>8</u> = Total Cover																				
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																				
1. <u>Bouteloua dactyloides</u>	<u>1</u>	<u>N</u>	<u>FACU</u>																	
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
<u>1</u> = Total Cover																				
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																				
1. <u>N/A</u>																				
2. _____																				
<u>0</u> = Total Cover																				
% Bare Ground in Herb Stratum <u>99</u> <u>9</u> = Total Veg Cover																				

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
All dominants are FACW and/or OBL.  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Vegetation passes the Rapid Test. Hydrophytic vegetation is present.

**SOIL**

Sampling Point: SP-05

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 16	2.5YR 4/2	95	2.5YR 4/4	5	C	M	clay	distinct redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: none  
 Depth (inches): n/a

Hydric Soil Present? Yes  No

Remarks:  
 Hydric soil indicator Depleted Matrix (F3) noted. Hydric soil is present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Sparsely Vegetated Concave Surface (B8) noted. Sampling pit was excavated with the ordinary high water mark of Williams Creek; therefore, Geomorphic Position (D2) is present. Vegetation passes the FAC-Neutral Test (D5). Wetland hydrology is present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso County Sampling Date: 9/7/2020  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-06  
 Investigator(s): PJW & TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 12, Township 16 South, Range 65 West  
 Landform (hillslope, terrace, etc.): bank of creek Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): Western Great Plains (LRR G) Lat: 38.677061° Long: -104.620933° Datum: WGS84  
 Soil Map Unit Name: Ustic Torrifluvents, loamy NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: SP-06 was excavated in the bank of Williams Creek in a sparsely vegetated area dominated by <i>Bouteloua dactyloides</i> . SP-06 pairs with wetland pit SP-05.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>6</u></td> <td>x 2 = <u>12</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>16</u> (A)</td> <td><u>52</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.25</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>6</u>	x 2 = <u>12</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>16</u> (A)	<u>52</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>6</u>	x 2 = <u>12</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>10</u>	x 4 = <u>40</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>16</u> (A)	<u>52</u> (B)																	
<u>6</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>Tamarix chinensis</u>	<u>6</u>	<u>Y</u>	<u>FACW</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>6</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Bouteloua dactyloides</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>10</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>90</u> <u>16</u> = Total Veg Cover																		

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
All dominants are FACW and/or OBL.  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:  
 D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Vegetation does not pass Rapid Test, Dominance Test, or Prevalence Index Test. Hydrophytic vegetation is not present.

**SOIL**

Sampling Point: SP-06

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 8	10YR 5/2	100					clay	no redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: hard clay pan  
 Depth (inches): 8

Hydric Soil Present? Yes  No

Remarks:  
 No hydric soil indicators noted. Hydric soil is not present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 No hydrology indicators noted. Wetland hydrology is not present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso County Sampling Date: 9/10/2020  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-07  
 Investigator(s): TLM & CK - Pinyon Environmental, Inc. Section, Township, Range: Section 13, Township 16 South, Range 65 West  
 Landform (hillslope, terrace, etc.): Streambed Local relief (concave, convex, none): Concave Slope (%): 2  
 Subregion (LRR): Western Great Plains (LRR G) Lat: 38.661605° Long: -104.618790° Datum: WGS84  
 Soil Map Unit Name: Ascalon sandy loam, 1 to 3 percent slopes NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Vegetation does not pass as hydrophytic; therefore, this is a problematic wetland. Vegetation in stream channel is noticeably different from upland areas around it. Soil and hydrology indicators were noted	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>70</u></td> <td>x 3 = <u>210</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>10</u></td> <td>x 5 = <u>50</u></td> </tr> <tr> <td>Column Totals: <u>105</u> (A)</td> <td><u>320</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.0476190476190474</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>70</u>	x 3 = <u>210</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>10</u>	x 5 = <u>50</u>	Column Totals: <u>105</u> (A)	<u>320</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>20</u>	x 2 = <u>40</u>																	
FAC species <u>70</u>	x 3 = <u>210</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species <u>10</u>	x 5 = <u>50</u>																	
Column Totals: <u>105</u> (A)	<u>320</u> (B)																	
<u>5</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>Tamarix parviflora</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>5</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Astragalus canadensis</u>	<u>65</u>	<u>Y</u>	<u>FAC</u>															
2. <u>Medicago sativa</u>	<u>10</u>	<u>N</u>	<u>UPL</u>															
3. <u>Hordeum jubatum</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
4. <u>Equisetum arvense</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
5. <u>Helianthus annuus</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
6. <u>Polygonum pensylvanicum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>100</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>0</u> <span style="float: right;"><u>105</u> = Total Veg Cover</span>																		

Remarks: D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Vegetation does not pass as hydrophytic. However, due to it's geomorphic position, possible grazing and climactic variability as well as hydric soil and hydrology indicators present, this is considered a problematic hydrophytic vegetation area.

**SOIL**

Sampling Point: SP-07

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 20	10YR 5/2	80	10YR 6/8	20	C	M	sandy clay	prominent redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:  
Depleted matrix (F3) and Sandy Redox (S5) noted in soil.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Presence of Reduced Iron (C4) (where not tilled)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes  No \_\_\_\_\_ Depth (inches): 3

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
SP-07 was excavated in a stream bed, so Geomorphic Position (D2) passes. Saturation (A3) was noted at 3 inches below ground surface. Hydrogen Sulfide Odor (C1) was noted.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso County Sampling Date: 9/10/2020  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-08  
 Investigator(s): TLM & CK - Pinyon Environmental, Inc. Section, Township, Range: Section 13, Township 16 South, Range 65 West  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 2  
 Subregion (LRR): Western Great Plains (LRR G) Lat: 38.661631° Long: -104.618761° Datum: WGS84  
 Soil Map Unit Name: Ascalon sandy loam, 1 to 3 percent slopes NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Vegetation passes as hydrophytic; Soil and hydrology indicators were not noted.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 = <u>60</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>60</u> (A)</td> <td><u>165</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.75</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>15</u>	x 4 = <u>60</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>60</u> (A)	<u>165</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>30</u>	x 2 = <u>60</u>																	
FAC species <u>15</u>	x 3 = <u>45</u>																	
FACU species <u>15</u>	x 4 = <u>60</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>60</u> (A)	<u>165</u> (B)																	
<u>5</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>Tamarix parviflora</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>5</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Panicum virgatum</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Equisetum arvense</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Bassia scoparia</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>55</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>45</u> <u>60</u> = Total Veg Cover																		

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:  
 D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Vegetation passes as hydrophytic; however, vegetation is in a discretely upland area.

**SOIL**

Sampling Point: SP-08

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 20	10YR 4/2	100					Sandy loa	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No

Remarks:  
No hydric soils indicators noted.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?** Yes \_\_\_\_\_ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
No hydrology indicators noted.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso County Sampling Date: 9/10/2020  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-09  
 Investigator(s): TLM & CK - Pinyon Environmental, Inc. Section, Township, Range: Section 11, Township 16 South, Range 65 West  
 Landform (hillslope, terrace, etc.): Streambed Local relief (concave, convex, none): Concave Slope (%): 2  
 Subregion (LRR): Western Great Plains (LRR G) Lat: 38.662065° Long: -104.616663° Datum: WGS84  
 Soil Map Unit Name: Fort loam, 1 to 5 percent slopes, cool NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Hydrophytic vegetation, hydric soil, and hydrology indicators noted at SP-09.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>NaN</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>0</u> (A)	<u>0</u> (B)																	
<u>20</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>Tamarix parviflora</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>20</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Schoenoplectus pungens</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>															
2. <u>Astragalus canadensis</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
3. <u>Hordeum jubatum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
4. <u>Polygonum pensylvanicum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>75</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>25</u> <u>95</u> = Total Veg Cover																		

Remarks: Vegetation passes Rapid Test and Dominance Test; therefore, vegetation is hydrophytic. D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.

**SOIL**

Sampling Point: SP-09

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 1	10YR 5/4	100					Loamy sa	Two matrix colors starting at
1-20	Gley 1 4/10Y	65	7.5YR 5/6	5	C	M	Loamy sa	one inch below ground surface
1-20	Gley 1 2.5/N	35						

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:  
Sandy Gleyed Matrix (S4) and Sandy Redox (S5) were noted.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes  No \_\_\_\_\_ Depth (inches): 1

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Saturation (A3) and Hydrogen Sulfide Odor (C2) were noted.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso County Sampling Date: 9/10/2020  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-10  
 Investigator(s): TLM & CK - Pinyon Environmental, Inc. Section, Township, Range: Section 11, Township 16 South, Range 65 West  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 1  
 Subregion (LRR): Western Great Plains (LRR G) Lat: 38.662108° Long: -104.616687° Datum: WGS84  
 Soil Map Unit Name: Fort loam, 1 to 5 percent slopes, cool NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: No hydrophytic vegetation, hydric soils or hydrology indicators noted at SP-10.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>30</u></td> <td>x 5 = <u>150</u></td> </tr> <tr> <td>Column Totals: <u>80</u> (A)</td> <td><u>290</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.625</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species <u>30</u>	x 5 = <u>150</u>	Column Totals: <u>80</u> (A)	<u>290</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>30</u>	x 2 = <u>60</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>20</u>	x 4 = <u>80</u>																	
UPL species <u>30</u>	x 5 = <u>150</u>																	
Column Totals: <u>80</u> (A)	<u>290</u> (B)																	
<u>10</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>Tamarix parviflora</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>10</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Sorghum halepense</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Panicum virgatum</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Tribulus terrestris</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>															
4. <u>Medicago sativa</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>															
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>70</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>30</u> <u>80</u> = Total Veg Cover																		

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
All dominants are FACW and/or OBL.  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:  
 Vegetation is not hydrophytic.

D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.

**SOIL**

Sampling Point: SP-10

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-20	10YR 5/4	100					sandy loa	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No

Remarks:  
No hydric soils indicators noted.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?** Yes \_\_\_\_\_ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
No hydrology indicators noted.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso County Sampling Date: 9/10/2020  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-11  
 Investigator(s): TLM & CK - Pinyon Environmental, Inc. Section, Township, Range: Section 13, Township 16 South, Range 65 West  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 5  
 Subregion (LRR): Western Great Plains (LRR G) Lat: 38.664865° Long: -104.610805° Datum: WGS84  
 Soil Map Unit Name: Razor-Midway complex NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: SP-11 excavated near open waters. Hydrophytic vegetation, hydric soils, and hydrology indicators noted.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u></td> <td>(A) <u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>NaN</u>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u>	(A) <u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>0</u>	(A) <u>0</u> (B)																	
<u>0</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>0</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Schoenoplectus pungens</u>	<u>90</u>	<u>Y</u>	<u>OBL</u>															
2. <u>Typha angustifolia</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>100</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>0</u> <u>100</u> = Total Veg Cover																		

Remarks: Vegetation passes Rapid Test for Hydrophytic Vegetation. D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.

**SOIL**

Sampling Point: SP-11

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 3	10YR 5/3	90	5YR 4/6	10	C	M	Sandy cla	Two matrix colors starting at three inches below ground surface.
3-20	Gley 1 4/10GY	60	10YR 5/6	20	C	M	Sandy cla	
3-20	Gley 2 3/5PB	20						

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:  
Hydrogen Sulfide (A4) and Sandy Gleyed Matrix (S4) indicators noted.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Presence of Reduced Iron (C4) (where not tilled)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes  No \_\_\_\_\_ Depth (inches): 8

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Saturation (A3) noted starting at 8 inches below ground surface. Hydrogen Sulfide Odor (C1) was also noted. Geomorphic Position (D2) and FAC-Neutral Test (D5) also pass as hydrology indicators.

**WETLAND DETERMINATION DATA FORM – Great Plains Region**

Project/Site: Pike Solar Project City/County: El Paso County Sampling Date: 9/10/2020  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-12  
 Investigator(s): TLM & CK - Pinyon Environmental, Inc. Section, Township, Range: Section 13, Township 16 South, Range 65 West  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 5  
 Subregion (LRR): Western Great Plains (LRR G) Lat: 38.664800° Long: -104.610828° Datum: WGS84  
 Soil Map Unit Name: Razor-Midway complex NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: No hydrophytic vegetation, hydric soils or hydrology indicators noted.	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
	<u>0</u>	= Total Cover		<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;"><u>Total % Cover of:</u></td> <td style="width:50%;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species <u>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>30</u></td> <td>x 4 = <u>120</u></td> </tr> <tr> <td>UPL species <u>40</u></td> <td>x 5 = <u>200</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>370</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.7</u>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>30</u>	x 4 = <u>120</u>	UPL species <u>40</u>	x 5 = <u>200</u>	Column Totals: <u>100</u> (A)	<u>370</u> (B)
<u>Total % Cover of:</u>	<u>Multiply by:</u>																	
OBL species <u>10</u>	x 1 = <u>10</u>																	
FACW species <u>20</u>	x 2 = <u>40</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>30</u>	x 4 = <u>120</u>																	
UPL species <u>40</u>	x 5 = <u>200</u>																	
Column Totals: <u>100</u> (A)	<u>370</u> (B)																	
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
	<u>0</u>	= Total Cover																
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Ambrosia psilostachya</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Medicago sativa</u>	<u>30</u>	<u>Y</u>	<u>UPL</u>															
3. <u>Hordeum jubatum</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>															
4. <u>Tribulus terrestris</u>	<u>10</u>	<u>N</u>	<u>UPL</u>															
5. <u>Schoenoplectus pungens</u>	<u>10</u>	<u>N</u>	<u>OBL</u>															
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
	<u>100</u>	= Total Cover																
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
	<u>0</u>	= Total Cover																
% Bare Ground in Herb Stratum <u>0</u>	<u>100</u>	= Total Veg Cover																
<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <small>All dominants are FACW and/or OBL.</small> <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)																		
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																		
<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																		

Remarks: Vegetation does not pass as hydrophytic. D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.



## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso County Sampling Date: 9/7/2020  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-13  
 Investigator(s): PJW & TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 11, Township 16 South, Range 65 West  
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 1  
 Subregion (LRR): Western Great Plains (LRR G) Lat: 38.666551° Long: -104.632898° Datum: WGS84  
 Soil Map Unit Name: Razor-Midway complex NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: SP-13 was excavated in a swale abutting a berm in an area dominated by <i>Juncus balticus</i> .	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>8</u></td> <td>x 3 = <u>24</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>48</u> (A)</td> <td><u>124</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.5833333333333335</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>8</u>	x 3 = <u>24</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>48</u> (A)	<u>124</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>30</u>	x 2 = <u>60</u>																	
FAC species <u>8</u>	x 3 = <u>24</u>																	
FACU species <u>10</u>	x 4 = <u>40</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>48</u> (A)	<u>124</u> (B)																	
<u>0</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>0</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Juncus balticus</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Bouteloua dactyloides</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Sporobolus airoides</u>	<u>8</u>	<u>N</u>	<u>FAC</u>															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>48</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>52</u> <span style="float: right;"><u>48</u> = Total Veg Cover</span>																		
<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <small>All dominants are FACW and/or OBL.</small> <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)																		
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																		
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																		

Remarks: D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Vegetation passes the Prevalence Index Test. Hydrophytic vegetation is present.

**SOIL**

Sampling Point: SP-13

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 14	10YR 5/4	95	10YR 5/8	5	C	M	clay	prominent redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: hard clay pan  
 Depth (inches): 14

Hydric Soil Present? Yes  No

Remarks:

No hydric soil indicators noted. Area is not a closed depression, and therefore does not pass for Redox Depressions. Hydric soil is not present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SP-13 was excavated in a swale; therefore, passes for Geomorphic Position (D2). No other hydrology indicators were noted. Wetland hydrology is not present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso Sampling Date: 7/16/19  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-14  
 Investigator(s): PJW and TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 25, Township 16S, Range 65W  
 Landform (hillslope, terrace, etc.): depression/swale Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): Western Great Plains Range and Irrigated Region Lat: 38.621457° Long: -104.618193° Datum: WGS84  
 Soil Map Unit Name: Heldt clay loam, 0 to 3 percent slopes NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No _____
Remarks: Sampling pit excavated in an artificially-formed depression (stock pond) abutting an impoundment.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)																
2. _____																				
3. _____																				
4. _____																				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>100</u></td> <td>x 1 = <u>100</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>100</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>1</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>100</u>	x 1 = <u>100</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>100</u> (B)	Prevalence Index = B/A = <u>1</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>100</u>	x 1 = <u>100</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>100</u> (A)	<u>100</u> (B)																			
Prevalence Index = B/A = <u>1</u>																				
<u>0</u> = Total Cover																				
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																				
1. <u>N/A</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
<u>0</u> = Total Cover																				
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																				
1. <u>Eleocharis palustris</u>	<u>100</u>	<u>Y</u>	<u>OBL</u>																	
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
<u>100</u> = Total Cover																				
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																				
1. <u>N/A</u>																				
2. _____																				
<u>0</u> = Total Cover																				
% Bare Ground in Herb Stratum <u>50</u>																				
<u>100</u> = Total Veg Cover																				

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
All dominants are FACW and/or OBL.  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No \_\_\_\_\_

Remarks:  
 Eleocharis palustris mostly dead. Passed Rapid test for hydrophytic vegetation, dominance test, and prevalence index; hydrophytic vegetation is present.

**SOIL**

Sampling Point: SP-14

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 10	10YR 4/3	100					silty clay	No redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: hard clay layer  
 Depth (inches): 10

Hydric Soil Present? Yes  No

Remarks:

Problematic indicator Seasonally Pondered Soils is present. Hydrophytic vegetation and wetland hydrology are present and the area is located in a depression likely to collect or concentrate water. Soils are classified as moderately to strongly alkaline.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sampling pit excavated in a seasonally ponded depression. Wetland hydrology indicators noted. Wetland hydrology is present

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso Sampling Date: 7/19/19  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-15  
 Investigator(s): PJW and TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 25, Township 16S, Range 65W  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 3  
 Subregion (LRR): Western Great Plains Range and Irrigated Region Lat: 38.623607° Long: -104.617382° Datum: WGS84  
 Soil Map Unit Name: Heldt clay loam, 0 to 3 percent slopes NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Sampling pit excavated in an artificially-formed depression (stock pond) abutting an impoundment.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>50</u></td> <td>x 4 = <u>200</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>50</u> (A)</td> <td><u>200</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>50</u>	x 4 = <u>200</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>50</u> (A)	<u>200</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>50</u>	x 4 = <u>200</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>50</u> (A)	<u>200</u> (B)																	
<u>0</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>0</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Helianthus annuus</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>50</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>50</u> <u>50</u> = Total Veg Cover																		

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
All dominants are FACW and/or OBL.  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:  
 D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Does not pass the Rapid Test, Dominance Test, or Prevalence Index Test. Hydrophytic vegetation is not present.

**SOIL**

Sampling Point: SP-15

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 1	10YR 4/2	70	10YR 4/6	30	C	M	clay	Prominent redox noted
1 - 7	10YR 4/2	98	10YR 4/6	2	C	M	clay	Prominent redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: hard clay layer  
 Depth (inches): 7

Hydric Soil Present? Yes  No

Remarks:

Hydric soil indicator Depleted Matrix (F3) noted. Hydric soil is present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Inundation and saturation visible for most of the years in which images were clear enough to determine whether or not there was inundation and saturation (Google Earth Imagery).

Remarks:

Sampling pit excavated in a depression subject to ponding. Wetland hydrology indicators noted. Wetland hydrology is present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso Sampling Date: 7/19/19  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-16  
 Investigator(s): PJW and TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 25, Township 16S, Range 65W  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): Western Great Plains and Irrigated Region Lat: 38.624864° Long: -104.617524° Datum: WGS84  
 Soil Map Unit Name: Heldt clay loam, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Sampling pit excavated in an artificially-formed depression (stock pond) abutting an impoundment.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>25</u> (A)</td> <td><u>70</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.8</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>25</u> (A)	<u>70</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>15</u>	x 2 = <u>30</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>10</u>	x 4 = <u>40</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>25</u> (A)	<u>70</u> (B)																	
<u>0</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>0</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Suckleya suckleyana</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Helianthus annuus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>25</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>75</u> <span style="float: right;"><u>25</u> = Total Veg Cover</span>																		

Remarks: D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Passes Prevalence Index Test. Hydrophytic vegetation is present.

**SOIL**

Sampling Point: SP-16

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 5	10YR 4/2	85	10YR 5/8	15	C	M	clay	Prominent redox noted
5 - 12	10YR 4/2	98	10YR 5/8	2	C	M	clay	Prominent redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: n/a  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

Hydric soil indicators include Depleted Dark Surface (F7) and Redox Depressions (F8). Hydric soil is present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Inundation and saturation visible for most of the years in which images were clear enough to determine whether or not there was inundation and saturation (Google Earth Imagery).

Remarks:

Sampling pit excavated in a depression subject to ponding. Wetland hydrology indicators noted. Wetland hydrology is present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso Sampling Date: 7/19/19  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-17  
 Investigator(s): PJW and TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 25, Township 16S, Range 65W  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2  
 Subregion (LRR): Western Great Plains and Irrigated Region Lat: 38.624708° Long: -104.617443° Datum: WGS84  
 Soil Map Unit Name: Heldt clay loam, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Sampling pit excavated up-gradient of SP-16 in an area dominated by <i>Pascopyrum smithii</i> .	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>100</u></td> <td>x 4 = <u>400</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>400</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>100</u>	x 4 = <u>400</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>400</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>100</u>	x 4 = <u>400</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>400</u> (B)																	
<u>0</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>0</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Pascopyrum smithii</u>	<u>95</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Helianthus annuus</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>100</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>0</u> <span style="float: right;"><u>100</u> = Total Veg Cover</span>																		

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
All dominants are FACW and/or OBL.  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:  
 D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Does not pass Rapid Test, Dominance Test, or Prevalence Index Test. Hydrophytic vegetation is not present.

**SOIL**

Sampling Point: SP-17

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 6	10YR 5/3	100					clay	No redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)
	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<b>Restrictive Layer (if present):</b> Type: <u>hard clay layer</u> Depth (inches): <u>6</u>	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:  
No hydric soil indicators noted. Hydric soil is not present.

**HYDROLOGY**

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Sampling pit excavated in a depression area subject to some inundation. Only one secondary hydrology indicator noted: Geomorphic Position (D2). Wetland hydrology is not present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso Sampling Date: 7/19/19  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-18  
 Investigator(s): PJW and TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 25, Township 16S, Range 65W  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): Western Great Plains and Irrigated Region Lat: 38.630787° Long: -104.618172° Datum: WGS84  
 Soil Map Unit Name: Razor-Midway complex NWI classification: PUSA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Sampling pit excavated in a shallow swale (not a closed depression) dominated by Eleocharis palustris.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)																
2. _____																				
3. _____																				
4. _____																				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>90</u></td> <td>x 1 = <u>90</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>90</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>1</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>90</u>	x 1 = <u>90</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>90</u> (A)	<u>90</u> (B)	Prevalence Index = B/A = <u>1</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>90</u>	x 1 = <u>90</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>90</u> (A)	<u>90</u> (B)																			
Prevalence Index = B/A = <u>1</u>																				
<u>0</u> = Total Cover																				
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																				
1. <u>N/A</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
<u>0</u> = Total Cover																				
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																				
1. <u>Eleocharis palustris</u>	<u>90</u>	<u>Y</u>	<u>OBL</u>																	
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
<u>90</u> = Total Cover																				
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																				
1. <u>N/A</u>																				
2. _____																				
<u>0</u> = Total Cover																				
% Bare Ground in Herb Stratum <u>10</u> <span style="float: right;"><u>90</u> = Total Veg Cover</span>																				

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
All dominants are FACW and/or OBL.  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:  
 Passes Rapid Test, Dominance test, and Prevalence Index Test. Hydrophytic vegetation is present.

**SOIL**

Sampling Point: SP-18

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 1	10YR 4/2	95	10YR 6/8	5	C	M/PL	clay	Prominent redox noted
1 - 10	10YR 4/2	100					clay	No redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: 10  
 Depth (inches): hard clay layer

Hydric Soil Present? Yes  No

Remarks:

No hydric soil indicators noted. Hydric soil is not present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sampling pit excavated in a swale subject to some inundation. Two secondary hydrology indicators noted. Wetland hydrology is present.

**WETLAND DETERMINATION DATA FORM – Great Plains Region**

Project/Site: Pike Solar Project City/County: El Paso Sampling Date: 7/19/19  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-19  
 Investigator(s): PJW and TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 25, Township 16S, Range 65W  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): Western Great Plains and Irrigated Region Lat: 38.634621° Long: -104.621261° Datum: WGS84  
 Soil Map Unit Name: Manzanola silty clay loam, saline, 0 to 2 percent slopes NWI classification: PUSC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil Yes, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Sampling pit excavated in an artificially-formed depression (stock pond) abutting an impoundment; Suckleya suckleyana surrounded by mix of Helianthus annuus, Eleocharis palustris, and Chenopodium album (noted nearby but outside of the five foot radius of the sampling pit).	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
	<u>0</u>	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>N/A</u>				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;"><u>Total % Cover of:</u></td> <td style="width:50%;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>50</u></td> <td>x 2 = <u>100</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>50</u></td> <td>x 4 = <u>200</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>300</u> (B)</td> </tr> </table>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>50</u>	x 2 = <u>100</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>50</u>	x 4 = <u>200</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>300</u> (B)
<u>Total % Cover of:</u>	<u>Multiply by:</u>																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>50</u>	x 2 = <u>100</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>50</u>	x 4 = <u>200</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>300</u> (B)																	
2. _____																		
3. _____																		
4. _____																		
5. _____																		
	<u>0</u>	= Total Cover																
Herb Stratum (Plot size: <u>5 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Helianthus annuus</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <small>All dominants are FACW and/or OBL.</small> ___ 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Suckleya suckleyana</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
	<u>100</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>15 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>N/A</u>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														
2. _____																		
	<u>0</u>	= Total Cover																
% Bare Ground in Herb Stratum <u>0</u>	<u>100</u>	= Total Veg Cover																

Remarks: D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Passes Prevalence Index Test; hydrophytic vegetation present.

**SOIL**

Sampling Point: SP-19

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 8	10YR 5/3	93	10YR 5/4	7	C	M	clay	Faint redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: hard clay layer  
 Depth (inches): 8

Hydric Soil Present? Yes  No

Remarks:

Problematic indicator Seasonally Pondered Soils is present. Hydrophytic vegetation and wetland hydrology are present and the area is located in a depression likely to collect or concentrate water. Soils are classified as slightly alkaline to strongly alkaline.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Inundation and saturation visible for most of the years in which images were clear enough to determine whether or not there was inundation or saturation (Google Earth Imagery).

Remarks:

Sampling pit excavated in a depression subject to ponding. Wetland hydrology indicators noted. Wetland hydrology is present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso Sampling Date: 7/19/19  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-20  
 Investigator(s): PJW and TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 25, Township 16S, Range 65W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): Western Great Plains and Irrigated Region Lat: 38.634702° Long: -104.621259° Datum: WGS94  
 Soil Map Unit Name: Manzanola silty clay loam, saline, 0 to 2 percent slopes NWI classification: PUSC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Sampling pit excavated in a flat area up-gradient of SP-19.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>45</u></td> <td>x 3 = <u>135</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>10</u></td> <td>x 5 = <u>50</u></td> </tr> <tr> <td>Column Totals: <u>55</u> (A)</td> <td><u>185</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.3636363636363638</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>45</u>	x 3 = <u>135</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>10</u>	x 5 = <u>50</u>	Column Totals: <u>55</u> (A)	<u>185</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>45</u>	x 3 = <u>135</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>10</u>	x 5 = <u>50</u>																	
Column Totals: <u>55</u> (A)	<u>185</u> (B)																	
<u>0</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>0</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Sporobolus airoides</u>	<u>45</u>	<u>Y</u>	<u>FAC</u>															
2. <u>Oenopsis foliosa</u>	<u>10</u>	<u>N</u>	<u>UPL</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>55</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>45</u> <u>55</u> = Total Veg Cover																		
<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <small>All dominants are FACW and/or OBL.</small> ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)																		
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																		
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																		

Remarks: D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Passes Dominance Test for hydrophytic vegetation. Hydrophytic vegetation is present.

**SOIL**

Sampling Point: SP-20

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 12	10YR 4/3	100					clay	No redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: hard clay layer  
 Depth (inches): 12

Hydric Soil Present? Yes  No

Remarks:

No hydric soil indicators noted. Hydric soil is not present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology indicators noted. Wetland hydrology is not present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso Sampling Date: 7/15/19  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-21  
 Investigator(s): PJW and TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 23, Township 16S, Range 65W  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): Western Great Plains and Irrigated Region Lat: 38.642212° Long: -104.627158 Datum: WGS84  
 Soil Map Unit Name: Manzanola silty clay loam, saline, 0 to 2 percent slopes NWI classification: R5UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Sampling pit excavated in an artificially-formed depression (stock pond) abutting an impoundment. Vegetation dominated by <i>Eleocharis palustris</i> and <i>Helianthus annuus</i> .	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>50</u></td> <td>x 1 = <u>50</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>50</u></td> <td>x 4 = <u>200</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>250</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.5</u>	Total % Cover of:	Multiply by:	OBL species <u>50</u>	x 1 = <u>50</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>50</u>	x 4 = <u>200</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>250</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>50</u>	x 1 = <u>50</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>50</u>	x 4 = <u>200</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>250</u> (B)																	
<u>0</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>0</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Eleocharis palustris</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>															
2. <u>Helianthus annuus</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>100</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>0</u> <span style="float: right;"><u>100</u> = Total Veg Cover</span>																		

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
All dominants are FACW and/or OBL.  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:  
 Passes Prevalence Index Test; hydrophytic vegetation is present.

**SOIL**

Sampling Point: SP-21

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 8	10YR 5/3	93	7.5 YR 5/8	7	C	M	clay	Prominent redox noted
8 - 16	10YR 5/3	100					clay	No redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: n/a  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No \_\_\_\_\_

Remarks:

Passes for Redox Depressions (F8). Hydric soil is present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No \_\_\_\_\_

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Inundation and saturation visible for most of the years in which images were clear enough to determine whether or not there was inundation or saturation (Google Earth Imagery).

Remarks:

Sampling pit excavated in a depression subject to ponding. Wetland hydrology indicators noted. Wetland hydrology is present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso Sampling Date: 7/15/19  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-22  
 Investigator(s): PJW and TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 23, Township 16S, Range 65W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): Western Great Plains and Irrigated Region Lat: 38.649295° Long: -104.626445° Datum: WGS84  
 Soil Map Unit Name: Manzanola silty clay loam, saline, 0-2 percent slopes NWI classification: R5UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Sampling pit excavated up-gradient of SP-22.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>80</u></td> <td>x 4 = <u>320</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>380</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>3.8</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>80</u>	x 4 = <u>320</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>380</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>20</u>	x 3 = <u>60</u>																	
FACU species <u>80</u>	x 4 = <u>320</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>380</u> (B)																	
<u>0</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>0</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Pascopyrum smithii</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Sporobolus airoides</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>100</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>0</u> <span style="float: right;"><u>100</u> = Total Veg Cover</span>																		

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
All dominants are FACW and/or OBL.  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:  
 D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Does not pass Rapid Test, Dominance Test, or Prevalence Index Test. No hydrophytic vegetation present.

**SOIL**

Sampling Point: SP-22

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 6	10YR 4/3	100					clay	No redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: hard clay layer  
 Depth (inches): 6

Hydric Soil Present? Yes  No

Remarks:  
 No hydric soil indicators noted. Hydric soil is not present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 No wetland hydrology indicators noted. Wetland hydrology is not present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso Sampling Date: 7/18/19  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-23  
 Investigator(s): PJW and TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 30, Township 16S, Range 65W  
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): Western Great Plains Range and Irriga Lat: 38.629161° Long: -104.607466° Datum: WGS84  
 Soil Map Unit Name: Manzanola silty clay loam, saline, 0 to 2 percent NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Sampling pit excavated in a shallow swale.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>80</u></td> <td>x 4 = <u>320</u></td> </tr> <tr> <td>UPL species <u>20</u></td> <td>x 5 = <u>100</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>420</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.2</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>80</u>	x 4 = <u>320</u>	UPL species <u>20</u>	x 5 = <u>100</u>	Column Totals: <u>100</u> (A)	<u>420</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>80</u>	x 4 = <u>320</u>																	
UPL species <u>20</u>	x 5 = <u>100</u>																	
Column Totals: <u>100</u> (A)	<u>420</u> (B)																	
<u>0</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>0</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Helianthus annuus</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Conyza canadensis</u>	<u>10</u>	<u>N</u>	<u>UPL</u>															
3. <u>Ratibida columnifera</u>	<u>10</u>	<u>N</u>	<u>UPL</u>															
4. <u>Pascopyrum smithii</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>100</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>0</u> <u>100</u> = Total Veg Cover																		

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
All dominants are FACW and/or OBL.  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:  
 D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Does not pass Rapid Test, Dominance Test, or Prevalence Index Test. Hydrophytic vegetation is not present.

**SOIL**

Sampling Point: SP-23

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 5	10YR 5/2	99	10YR 6/6	1	C	M	clay	Prominent redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: hard clay layer  
 Depth (inches): 5

Hydric Soil Present? Yes  No

Remarks:

No hydric soil indicators noted. Hydric soil is not present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sampling pit excavated in a lower elevation area subject to inundation. Only one secondary indicator noted: Geomorphic Position (D2). Wetland hydrology is not present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso Sampling Date: 7/16/16  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-24  
 Investigator(s): PJW and TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 25, Township 16S, Range 65W  
 Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): 2  
 Subregion (LRR): Western Great Plains Range and Irriga Lat: 38.629170° Long: -104.623952° Datum: WGS84  
 Soil Map Unit Name: Midway clay loam, 3 to 25 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Sampling pit excavated in a small drainage fed by pipe under road with sparse vegetation.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>40</u></td> <td>x 3 = <u>120</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>40</u> (A)</td> <td><u>120</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>40</u>	x 3 = <u>120</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>40</u> (A)	<u>120</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>40</u>	x 3 = <u>120</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>40</u> (A)	<u>120</u> (B)																	
<u>0</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>0</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Sporobolus airoides</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>40</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>60</u> <span style="float: right;"><u>40</u> = Total Veg Cover</span>																		

Remarks:  
 D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Passes Dominance Test and Prevalence Index Test for hydrophytic vegetation. Hydrophytic vegetation is present.

**SOIL**

Sampling Point: SP-24

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 12	10YR 4/2	100					silty clay	No redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: hard clay layer  
 Depth (inches): 12

Hydric Soil Present? Yes  No

Remarks:  
 No hydric soil indicators noted. Hydric soil not present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Sampling pit excavated in a depression subject to ponding. Wetland hydrology indicators noted. Wetland hydrology is present.

**WETLAND DETERMINATION DATA FORM – Great Plains Region**

Project/Site: Pike Solar Project City/County: El Paso Sampling Date: 7/19/19  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-25  
 Investigator(s): PJW and TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 26, Township 16S, Range 65W  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): Western Great Plains Range and Irriga Lat: 38.635480° Long: -104.635895° Datum: WGS84  
 Soil Map Unit Name: Heldt clay loam, 0 to 3 percent slopes NWI classification: PEM1Ah

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Remarks: Sampling pit excavated in an artificial depression (stock pond) abutting an impoundment.	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Helianthus annuus</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Bassia scoparia</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Eleocharis palustris</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
4. <u>Convolvulus arvensis</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>15 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>N/A</u>				
2. _____				
<u>0</u> = Total Cover				
<u>100</u> = Total Veg Cover				
% Bare Ground in Herb Stratum <u>0</u>				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 1 (A)  
 Total Number of Dominant Species Across All Strata: 3 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

**Prevalence Index worksheet:**  

Total % Cover of:	Multiply by:
OBL species <u>30</u>	x 1 = <u>30</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>60</u>	x 4 = <u>240</u>
UPL species <u>10</u>	x 5 = <u>50</u>
Column Totals: <u>100</u> (A)	<u>320</u> (B)

 Prevalence Index = B/A = 3.2

**Hydrophytic Vegetation Indicators:**  
 \_\_\_ 1 - Rapid Test for Hydrophytic Vegetation  
All dominants are FACW and/or OBL.  
 \_\_\_ 2 - Dominance Test is >50%  
 \_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

Remarks:  
 Does not pass Rapid Test, Dominance Test, or Prevalence Index Test. Hydrophytic vegetation is not present. Eleocharis palustris mostly dead.

**SOIL**

Sampling Point: SP-25

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 1	10YR 4/2	80	10YR 5/6	20	C	M	clay	Prominent redox noted
1- 16	10YR 4/2	93	10YR 5/6	7	C	M	clay	Prominent redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: hard clay layer  
 Depth (inches): 16

Hydric Soil Present? Yes  No

Remarks:

Hydric soil indicator Depleted Matrix (F3) noted. Hydric soil is present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sampling pit excavated in a depression area subject to ponding. Only one secondary indicator noted: Geomorphic Position (D2). Wetland hydrology is not present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso Sampling Date: 7/17/19  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-26  
 Investigator(s): PJW and TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 23, Township 16S, Range 65W  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): Western Great Plains Range and Irriga Lat: 38.636774° Long: -104.635949° Datum: WGS84  
 Soil Map Unit Name: Heldt clay loam, 0 to 3 percent slopes NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Sampling pit excavated in an artificial depression (stock pond) abutting an impoundment.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>12</u></td> <td>x 2 = <u>24</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>75</u></td> <td>x 4 = <u>300</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>102</u> (A)</td> <td><u>369</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.6176470588235294</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>12</u>	x 2 = <u>24</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>75</u>	x 4 = <u>300</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>102</u> (A)	<u>369</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>12</u>	x 2 = <u>24</u>																	
FAC species <u>15</u>	x 3 = <u>45</u>																	
FACU species <u>75</u>	x 4 = <u>300</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>102</u> (A)	<u>369</u> (B)																	
<u>2</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>Tamarisk sp.</u>	<u>2</u>	<u>Y</u>	<u>FACW</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>2</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Chenopodium album</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Rumex crispus</u>	<u>15</u>	<u>N</u>	<u>FAC</u>															
3. <u>Hordeum jubatum</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
4. <u>Asclepias subverticillata</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
5. <u>Helianthus annuus</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>100</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>20</u> <span style="float: right;"><u>102</u> = Total Veg Cover</span>																		

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
All dominants are FACW and/or OBL.  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:  
 D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Does not pass Rapid Test, Dominance Test, or Prevalence Index Test. Hydrophytic vegetation is not present.

**SOIL**

Sampling Point: SP-26

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 10	10YR 4/2	100						No redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: hard clay layer  
 Depth (inches): 10

Hydric Soil Present? Yes  No

Remarks:

No hydric soil indicators noted. Hydric soil is not present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

**Saturation somewhat visible on Aerial Imagery (Google Earth Imagery)**

Remarks:

Sampling pit excavated in a depression subjected to ponding. Two secondary hydrology indicators were noted. Wetland hydrology is present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso Sampling Date: 7/19/19  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-27  
 Investigator(s): PJW and TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 23, Township 16S, Range 65W  
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): Western Great Plains and Irrigated Region Lat: 38.649822° Long: -104.627277° Datum: WGS84  
 Soil Map Unit Name: Midway clay loam, 3 to 25 percent slopes NWI classification: PEM1Ch

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Sampling pit excavated in a shallow swale area.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>90</u></td> <td>x 4 = <u>360</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>370</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.7</u>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>90</u>	x 4 = <u>360</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>370</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>10</u>	x 1 = <u>10</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>90</u>	x 4 = <u>360</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>370</u> (B)																	
<u>0</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>0</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Helianthus annuus</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Eleocharis palustris</u>	<u>10</u>	<u>N</u>	<u>OBL</u>															
3. <u>Pascopyrum smithii</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>100</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>0</u> <span style="float: right;"><u>100</u> = Total Veg Cover</span>																		
<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																		

Remarks:  
 D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.  
 Does not pass Rapid Test, Dominance Test, or Prevalence Index Test. Hydrophytic vegetation is not present.

**SOIL**

Sampling Point: SP-27

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 10	10YR 5/3	100					clay	No redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: n/a  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

No hydric soil present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes \_\_\_\_\_ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sampling pit excavated in a lower elevation area subject to some inundation. Only one secondary indicator noted (Geomorphic Position; D2). Wetland hydrology is not present.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Pike Solar Project City/County: El Paso Sampling Date: 7/15/19  
 Applicant/Owner: JSI Construction Group, LLC State: CO Sampling Point: SP-28  
 Investigator(s): PJW and TLM - Pinyon Environmental, Inc. Section, Township, Range: Section 14, Township 16S, Range 65W  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): Western Great Plains and Irrigated Region Lat: 38.651935° Long: -104.630253° Datum: WGS84  
 Soil Map Unit Name: Midway clay loam, 3 to 25 percent slopes NWI classification: PEM1Ch

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Remarks: Sampling pit excavated in an artificially-formed depression area (stock pond) abutting an impoundment.	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 Ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><u>        </u> Total % Cover of:</td> <td style="width: 50%;"><u>        </u> Multiply by:</td> </tr> <tr> <td>OBL species <u>        </u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>        </u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>        </u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>40</u></td> <td>x 4 = <u>160</u></td> </tr> <tr> <td>UPL species <u>        </u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>40</u> (A)</td> <td><u>160</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4</u>	<u>        </u> Total % Cover of:	<u>        </u> Multiply by:	OBL species <u>        </u>	x 1 = <u>0</u>	FACW species <u>        </u>	x 2 = <u>0</u>	FAC species <u>        </u>	x 3 = <u>0</u>	FACU species <u>40</u>	x 4 = <u>160</u>	UPL species <u>        </u>	x 5 = <u>0</u>	Column Totals: <u>40</u> (A)	<u>160</u> (B)
<u>        </u> Total % Cover of:	<u>        </u> Multiply by:																	
OBL species <u>        </u>	x 1 = <u>0</u>																	
FACW species <u>        </u>	x 2 = <u>0</u>																	
FAC species <u>        </u>	x 3 = <u>0</u>																	
FACU species <u>40</u>	x 4 = <u>160</u>																	
UPL species <u>        </u>	x 5 = <u>0</u>																	
Column Totals: <u>40</u> (A)	<u>160</u> (B)																	
<u>0</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>0</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5 Ft radius</u>)</b>																		
1. <u>Helianthus annuus</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>40</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>15 Ft radius</u>)</b>																		
1. <u>N/A</u>																		
2. _____																		
<u>        </u> = Total Cover																		
% Bare Ground in Herb Stratum <u>60</u> <u>40</u> = Total Veg Cover																		

Remarks: Mostly bare ground surrounded by Helianthus annuus. No hydrophytic vegetation present. D5 - FAC Neutral Test for hydrology. Drop all FAC, cross examine all other dominants. If > 50% remaining are FACW to OBL, then YES to D5.

**SOIL**

Sampling Point: SP-28

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 12	10YR 4/3	98	10YR 4/6	2	M	C	clay	Distinct redox noted

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: n/a  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present?    Yes \_\_\_\_\_    No

Remarks:

No hydric soil indicators noted. Hydric soil is not present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

**Field Observations:**

Surface Water Present?    Yes \_\_\_\_\_    No     Depth (inches): \_\_\_\_\_  
 Water Table Present?    Yes \_\_\_\_\_    No     Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe)    Yes \_\_\_\_\_    No     Depth (inches): \_\_\_\_\_

Wetland Hydrology Present?    Yes     No \_\_\_\_\_

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Inundation and saturation visible for most of the years in which images were clear enough to determine whether or not there was inundation or saturation (Google Earth Imagery).

Remarks:

Sampling point is in a depression subject to ponding. Wetland hydrology indicators noted. Wetland hydrology is present.