

# PIKE SOLAR LLC



Appendix F- Biological Resources Report

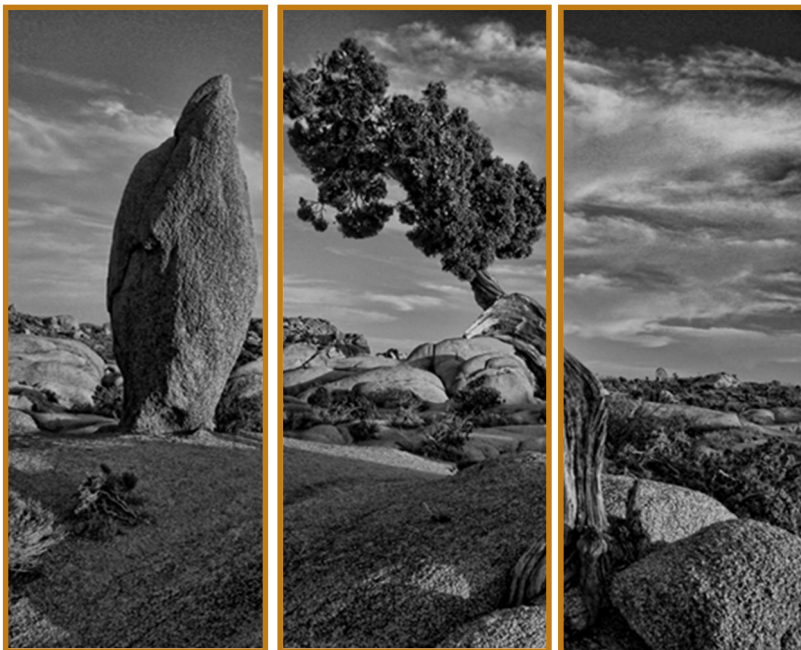
November 2, 2020

## **Biological Resources Report**

Pike Solar Project  
El Paso County, Colorado

**Prepared for:**  
JSI Construction Group, LLC  
Pike Solar, LLC  
1710 29th Street, Suite 1068  
Boulder, CO 80301

**Pinyon Project No.:**  
1/20-1215-02.BIO001



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**Prepared by:**



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## I. Introduction and Project Description

Pike Solar, LLC (Pike Solar), has contracted Pinyon Environmental, Inc. (Pinyon), to conduct a survey for biological resources for the Pike Solar Project (project) in El Paso County, Colorado. Pinyon understands that Pike Solar 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. This Biological Resources Report (report) details the methodology and results of Pinyon's biological surveys. The purpose of this report is to summarize potential constraints on development posed by biological resources within the project area and to address existing conditions regarding biological resources and protected species in accordance with the following federal and state regulations or policies:

- **The Endangered Species Act:** This federal statute protects plant and animal species listed as threatened and endangered, as well as their critical habitats, with the goal of ensuring their long-term survival. The U.S. Fish and Wildlife Service (USFWS) administers these requirements.
- **The Colorado Non-game, Endangered, and Threatened Species Conservation Act:** This state statute protects state-listed threatened and state-listed endangered species with the goal of ensuring their long-term survival. Colorado Parks and Wildlife (CPW) administers these requirements. CPW also designates species as Special Concern. This designation does not afford legal protections but nevertheless represents the conservation priorities of the agency.
- **The Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA):** These federal statutes protect migratory birds and eagles from unlawful "take" (killing or possession). Vegetation clearing, earth-moving, bridge demolition, and other construction activities are examples of activities that have the potential to disrupt nesting activity or destroy nests of bird species protected under the MBTA and BGEPA. The USFWS administers these requirements.
- **Noxious Weeds:** The Colorado Department of Agriculture (CDA) Noxious Weed Act of 2003 (CRS 35-5-101; CRS 35-5.5-101; Executive Order (EO) D-006-99) defines and prioritizes management objectives for state-designated noxious weeds. The CDA classifies noxious weed species into three categories: List A, List B, and List C. List A species are designated by the Commissioner of the CDA for eradication. List B species are those species that are managed to stop continued spread. List C species are weed species that are not required to be managed by local jurisdictions but are monitored to provide additional education and research (CDA, 2020).

A report detailing the findings of wetland and non-wetland waters in the project area was delivered to Pike Solar separately from this report; therefore, wetlands and non-wetland waters are not discussed further in this report.

### I.1 Project Location

Pike Solar provided Pinyon with the boundaries where the maximum extent of project impacts is anticipated to occur. This area is further referred to in this report as the "project area." The project area includes

approximately 3,269 acres of mostly rangeland in El Paso County, Colorado (Figure 1). The project location is shown in Figure 1 and described in Table 1-1, below.

**Table 1-1 Project Location**

<b>County</b>	El Paso
<b>United States Geological Survey (USGS) 7.5-Minute Quadrangle</b>	Fountain, Fountain NE, Fountain SE, Buttes Colorado (USGS, 1994a; USGS, 1994b; USGS, 1961; USGS, 1975)
<b>Section, Township, and Range (6th Principal Meridian)</b>	Multiple sections, Township 16 South, Ranges 64 and 65 West
<b>Elevation of Project (feet above mean sea level)</b>	5,370 – 5,590
<b>Approximate Central Location in World Geodetic System of 1984 (WGS84) Decimal Degrees</b>	38.644141°, -104.631250°

## 2. Methods

Pinyon biologists Pam Wegener and Tim Merlino visited the site the week of September 7, 2020 and assessed the project area for biological resources. The weather during the site visit was partly cloudy, and the temperature was approximately 65° Fahrenheit.

The biologists surveyed the project area for biological resources by walking and/or driving throughout the project area and recording the locations of sensitive habitat features (Figure 2). Data were recorded using tablet-based Collector for ArcGIS paired with a Trimble R1 antenna to obtain sub-meter accuracy. Notes and photographs were taken to record field conditions (Appendix A).

The following activities were completed during the site visit:

- General habitat conditions and land uses were noted. Dominant plant species and plant habitats were recorded.
- The project area was evaluated for protected species and their habitats, including:
  - Federally listed threatened and endangered species, as specified by the USFWS online Information for Planning and Consultation (IPaC) System (USFWS, 2020).
  - State-listed endangered species, threatened species, and species of concern, as indicated by CPW Species Activity Mapping Data and specified by USGS quadrangle on the Colorado Natural Heritage Program (CNHP) website (CPW, 2019; CNHP, 2020).
  - Migratory birds, including raptors and eagles.
- Noxious weeds were documented but not mapped. Pinyon completed comprehensive noxious weed mapping at the property in 2018 as part of an unrelated project.

Following the site visit, the data were downloaded and mapped in ArcGIS mapping software.



### **3. Results**

#### **3.1 Habitat Description**

##### **3.1.1 Land Use**

The project area is located in a rural area southeast of Fountain, generally between Squirrel Creek Road and Birdsall Road (Figure 1). The project area is used for livestock grazing. The only structures within the project area are associated with the Williams Creek Pump Station building (Appendix A). A powerline traverses the western portion of the site from north to south and various two-track roads are located throughout the project area (Appendix A). The Fountain landfill is located adjacent to the northern boundary of the project area. The Palmer Solar Array Project is adjacent to the southwest boundary of the project area.

##### **3.1.2 General Habitat and Vegetation Description**

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 (*Oenopsis foliosa*), yellowspine thistle (*Cirsium ochrocentrum*), salt cedar (*Tamarix chinensis*), and prickly pear cactus (*Opuntia* sp.). A few isolated plains cottonwood (*Populus deltoides*) trees were noted near drainages within the project area. Williams Creek and several unnamed drainages are located in the project area; therefore, riparian habitat makes up a small portion of the project area. Dominant species in the riparian areas included alkali sacaton (*Sporobolus airoides*), common spikerush (*Eleocharis palustris*), foxtail barley (*Hordeum jubatum*), poison suckleya (*Suckleya suckleyana*), milkvetch (*Astragalus canadensis*), common sunflower, common threesquare (*Schoenoplectus pungens*), narrowleaf cattail (*Typha angustifolia*), and various grass species (*Poaceae*). No sensitive or rare plant species were noted within the project area.

#### **3.2 Threatened and Endangered Species**

##### **3.2.1 Federally Listed Species**

Nine federally listed species were identified in the online USFWS IPaC database and were screened for potential occurrence and impacts (USFWS, 2020).

Five species were included on the IPaC list because they may be impacted by water-related activities/use in the North Platte, South Platte and Laramie River basins. These five species include the Interior Least Tern (*Sterna antillarum*), Whooping Crane (*Grus americana*), Piping Plover (*Charadrius melodus*), pallid sturgeon (*Scaphirhynchus albus*), and western prairie fringed orchid (*Platanthera praeclara*). This project is located in the Arkansas River Basin; therefore, the project is not anticipated to impact these species.

The habitat and distribution of each of the remaining species was reviewed, and the potential for occurrence was assigned based on the conditions within the project area (Table 3-1). No critical habitats are mapped in the project area.

**Table 3-1 Federally Listed Species and Their Potential to Occur in the Project Area**

Common Name	Species	Federal Status	Habitat <sup>1</sup>	Potential for Occurrence in Project Area
<b>Birds</b>				
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	FT	Mature, old-growth forests that possess complex structural components, canyons, riparian and conifer communities.  Will nest and roost primarily in closed-canopy forests or rocky canyons. They nest in these areas on cliff ledges, in stick nests built by other birds, on debris platforms in trees, and in tree cavities.	None. Suitable habitat does not occur within the project area.
<b>Fish</b>				
Greenback Cutthroat Trout	<i>Oncorhynchus clarkii stomias</i>	FT	Occurs in cold and clear headwater streams with a gravel substrate. Also occurs in cold mountain lakes. Requires a rich supply of insects for food.	None. Suitable habitat does not occur within the project area.
<b>Mammals</b>				
Preble's Meadow Jumping Mouse	<i>Strix occidentalis lucida</i>	FT	Heavily vegetated, shrub-dominated riparian (streamside) habitats and adjacent upland habitats along the foothills of southeastern Wyoming south to Colorado Springs along the eastern edge of the Front Range of Colorado.	None. Suitable habitat does not occur within the project area. The project area is outside of Preble's meadow jumping mouse critical habitat; therefore, no additional coordination with USFWS is needed.
<b>Plants</b>				
Ute Ladies'-tresses Orchid	<i>Spiranthes diluvialis</i>	FT	Sub-irrigated alluvial soils along streams; open meadows on floodplains including riparian areas. The species generally occurs at elevations below 6,500 feet.	None. No known populations occur in El Paso County and there is no suitable habitat in the project area.
<p>Notes:</p> <p>FT = federally listed as threatened.</p> <p><sup>1</sup> – Based on a review of CPW Threatened and Endangered List (CPW, 2020a); CPW Species Activity Mapping (CPW, 2019); USFWS IPaC (USFWS, 2020).</p>				

### 3.2.2 State-Listed and Special Concern Species

Based on a review of the CPW Species Activity Mapping Data and the CNHP Tracking Lists, there are state-listed species and state Species of Special Concern with the potential to be impacted by work occurring in the Arkansas River Basin in the Fountain, Fountain NE, Fountain SE, and Buttes Colorado 7.5-Minute Quadrangle (USGS, 1994a; USGS, 1994b; USGS, 1961; USGS, 1975). These species are Arkansas Darter (*Etheostoma cragini*; State Threatened [ST]), Bald Eagle (*Haliaeetus leucocephalus*; State Special Concern [SC]), Burrowing Owl (*Athene cunicularia*; ST), black tailed prairie dog (*Cynomys ludovicianus*; SC), Ferruginous Hawk (*Buteo regalis*; SC), Mountain Plover (*Charadrius montanus*; SC), northern leopard frog (*Rana pipiens*; SC), swift fox (*Vulpes velox*; SC), and Whooping Crane (*Grus americana*; State Endangered [SE]). Bald Eagle, Ferruginous Hawk, Burrowing Owl, Mountain Plover, and Whooping Crane are also protected under the MBTA. Bald Eagle is also protected under the BGEPA.

Due to lack of suitable habitat within or near the project area, the Arkansas darter and Whooping Crane are not expected to occur in the project area; therefore, these species are not discussed further in this report. The remaining species either do occur or have the potential to occur in the project area and are discussed in Table 3-2.

**Table 3-2 State-Listed Species and Their Potential to Occur in the Project Area**

Common Name	Species	State Status	Habitat <sup>1</sup>	Potential for Occurrence in Project Area
<b>Birds</b>				
Bald Eagle	<i>Haliaeetus leucocephalus</i>	SC	Seldom seen far from water - large rivers, lakes, and seacoasts. In Colorado they are often found near reservoirs, especially where there are abundant fish. Nests are often found near water. Habitat includes reservoirs and rivers. In winter, they may also occur locally in semi-deserts and grasslands, especially near prairie dog towns.	Low. No Bald Eagle nests were noted within or near the project area. Bald Eagles may forage in and around the project area as an abundant food source (prairie dogs) was observed within and adjacent to the project area. However, preferred habitat (near large water bodies or rivers), was not present within the project area.
Burrowing Owl	<i>Athene cunicularia</i>	ST	Primarily found in grasslands and mountain parks, usually in or near burrows that have been started by colonies of burrowing mammals. Habitat also includes areas with openness, short vegetation, and well-drained soils (e.g., steppes, prairies, and agricultural lands).	High. Multiple Burrowing Owls were noted in and around two prairie dog colonies along the southern edge of the project area (Figure 2).

Common Name	Species	State Status	Habitat <sup>1</sup>	Potential for Occurrence in Project Area
Ferruginous Hawk	<i>Buteo regalis</i>	SC	Semiarid grasslands with scattered trees, rocky mounds or outcrops, and shallow canyons that overlook open valleys. Open country, primarily prairies, plains, and badlands; sagebrush, saltbush-greasewood shrubland; periphery of pinyon-juniper and other woodland; desert.	Moderate. Suitable nesting habitat and an abundant food source (prairie dogs) were observed within and adjacent to the project area.
Mountain Plover	<i>Charadrius montanus</i>	SC	Shortgrass prairie with a history of heavy grazing or in low shrub semideserts. Prefers very short vegetation, significant areas of bare ground, and flat or gentle slopes. Generally avoids moist soils.	High. Suitable nesting habitat was observed within and adjacent to the project area (Cornell Lab of Ornithology, 2020).
<b>Mammals</b>				
Black-tailed Prairie Dog	<i>Cynomys ludovicianus</i>	SC	Form colonies or "towns" in shortgrass or mixed-grass prairie. Common in most of the counties of the eastern plains, especially those immediately along the Front Range.	High. Multiple active prairie dog colonies were noted throughout the project area (Figure 2).
Swift Fox	<i>Vulpes velox</i>	SC	Open, sparsely vegetated short- and mixed-grass prairie, where visibility and mobility are unimpeded. Native vegetation common in such grasslands includes buffalo grass, bluestem, and wire grass. May utilize prairie dog burrows to develop dens.	High. Short grass prairie habitat and prairie dog colonies were present within and adjacent to project area. Pinyon biologists have observed swift fox on other projects near the project site.
<b>Amphibians</b>				
Northern Leopard Frog	<i>Lithobates pipiens</i>	SC	Vicinity of springs, slow streams, marshes, bogs, ponds, canals, flood plains, reservoirs, and lakes; usually they are in or near permanent water with rooted aquatic vegetation. In summer, they commonly inhabit wet meadows and fields.	None. Some habitat was noted in the project area; however, streams and drainages in project area are intermittent.
<p>Notes:</p> <p>ST = state listed as threatened.</p> <p>SC = state listed as special concern (not a statutory category).</p> <p><sup>1</sup> – Based on a review of CPW Threatened and Endangered List (CPW, 2020a); CPW Species Activity Mapping (CPW, 2019).</p>				

## Biological Resources Report

Pike Solar Project  
El Paso County, Colorado

### 3.3 Migratory Birds

Large trees were noted within the project area, as well as within 0.5 mile of the project area (within the CPW Recommended Buffer Zones for raptors) that could be used by nesting raptors (CPW, 2020b). One potential raptor nest was noted near the northeast corner of the project area (Figure 2). One Red-tailed Hawk (*Buteo jamaicensis*) was noted near the nest. Multiple Burrowing Owls were observed in and around prairie dog colonies near the southern boundary of the project area (Figure 2; Appendix A). Burrowing Owls likely utilize the prairie dog burrows for nesting.

No nests were observed to be active during the site visits. The site visits were not conducted during the raptor nesting season, which occurs approximately between February and August. If any of the nests were active during the 2020 season, including Burrowing Owls, the young had fully fledged from the nests. Raptors may use the same nests from year to year; therefore, it is likely that the nests will become active (i.e., will contain eggs and/or hatchlings) during subsequent nesting seasons. Raptors may also construct new nests within the project area or the 0.5-mile buffer of the project area prior to the onset of construction.

No non-raptor nests were noted in the project area. Large trees also provide suitable habitat for non-raptor migratory bird species. The project area also had small- to medium-sized trees, shrubs, and grassland habitat, which provide suitable nesting habitats for other (non-raptor) birds.

### 3.4 Noxious Weeds

Weeds listed on the CDA Noxious Weed List were observed in the project area and the weeds present within the project area were typical of those located along Colorado's Front Range (CDA, 2020). No List-A noxious weed species were noted. Saltcedar was the only List-B noxious weed species noted in the project area (Appendix A). Field bindweed was the only List-C noxious weed species noted in the project area. These weeds were scattered throughout the project area and were not mapped. Comprehensive mapping was not performed because Pinyon previously mapped noxious weeds within the project area in 2018 for another project.

## 4. Conclusions and Mitigation Recommendations

Pinyon has completed this Biological Resources Report for the Pike Solar Project in El Paso County, Colorado. The project area was assessed for the presence of biological resources including federally and state-listed species, migratory birds, and noxious weeds.

### 4.1 Threatened and Endangered Species

#### 4.1.1 Federally Listed Species

The project area was assessed for the federally listed species with the potential to occur in the project area or be impacted by the project. Based on the habitat present, the project would not impact federally listed species. Therefore, no further consultation or mitigation for federally listed species is recommended.

#### 4.1.2 State-Listed Species

The project area was assessed for state-listed and Special Concern species with the potential to be impacted by the project. The Bald Eagle, Burrowing Owl, Ferruginous Hawk, Mountain Plover, black-tailed prairie dog, and swift fox were identified as occurring or having potential to occur in the project area.

#### 4.1.2.1 *Bald Eagle*

Per CPW data, no Bald Eagle nests or winter roosts are located within 0.5 mile of the project area. It is unlikely that Bald Eagles would nest or roost in or near the project area due to lack of suitable habitat. However, Bald Eagles can build new nests and expand their winter roost habitat. If new (unmapped) Bald Eagle nests or roosts are noted within 0.5 mile of the project area prior to construction, coordination with USFWS and/or CPW may be warranted.

#### 4.1.2.2 *Burrowing Owl*

Burrowing Owls were observed in the project area during the site visit (Figure 2). If the prairie dog colonies in the project area cannot be avoided, then Pinyon recommends removing the prairie dogs when Burrowing Owls are absent, between October 31 and March 15. There are several different methods of prairie dog elimination, which are summarized in guidance located at the following web site: <https://extension.colostate.edu/topic-areas/natural-resources/managing-prairie-dogs-6-506/>. The contractor should be appropriately licensed and permitted to carry out the selected removal method, as applicable. This process may involve walking up to each burrow, dropping a gas cartridge inside the burrows, and using a shovel or other tool to close off and compact soil on top of the burrow opening. Closure of the burrow openings with compacted soil is an important step that should be specified in the contract, to minimize the potential for Burrowing Owls to re-occupy burrows prior to construction. Follow up visits may be required to confirm that the prairie dogs were successfully removed and that none have reentered the colony. If the colony becomes re-occupied by prairie dogs, further removal may be necessary (if between October 31 and March 15) or a Burrowing Owl survey should be conducted to verify that no owls are occupying the project footprint (if between March 15 and October 31).

If prairie dog removal is not possible between October 31 and March 15, then a biologist should conduct Burrowing Owl surveys after March 15 but prior to construction. Surveys should follow the CPW-recommended Burrowing Owl survey protocol (CPW, 2008). Once a biologist has confirmed that burrows are unoccupied, then the removal of the prairie dog colony can proceed within the construction footprint. Note that it could take several months for Burrowing Owls to complete their nesting cycle.

#### 4.1.2.3 *Ferruginous Hawk*

Ferruginous Hawks were not observed within or near the project area during the site visit; however, suitable nesting habitat and food sources (prairie dogs) were noted within the project area. Per CPW 2020 guidelines, in Colorado, most nesting and rearing activities for Ferruginous Hawk occur between February 1 and July 15 and this species is “especially prone to nest abandonment during incubation if disturbed” (CPW, 2020b). If construction activities occur during the nesting season, Pinyon recommends that a qualified biologist conduct a raptor nest survey prior to the commencement of work. If active raptor nests are noted, Pinyon recommends coordination with CPW on appropriate avoidance measures.

#### 4.1.2.4 *Mountain Plover*

Mountain Plover was not observed within or near the project area during the site visit; however, suitable ground nesting habitat was noted in the project area. The nesting season for most migratory birds generally occurs from April 1 through August 31. Mountain Plover nesting peaks from April to mid-June. As a species of Special Concern, the Mountain Plover has no statutory protections beyond those afforded by the MBTA. The question as to whether the MBTA prohibits unintentional, or “incidental” take, such as that which may occur from construction activities, has been in flux in recent years. Most recently, the USFWS initiated a rulemaking process to formalize the interpretation of the MBTA protections as not extending to incidental take. A final Environmental Impact Statement evaluating the proposed rule was planned for release in fall 2020; however,

the rulemaking process has been delayed because the legal opinion on which the proposed rule was founded was vacated by a federal court in August 2020. In Pinyon's experience most industries and agencies are moving forward with "business as usual" under the assumption that incidental take *is* prohibited.

Should Pike Solar decide to minimize the potential for incidental take of Mountain Plover and other small migratory birds, vegetation-clearing and ground disturbing activities should be planned to take place outside of the nesting season (between August 31 and April 1; note, a stormwater permit should be in place prior to disturbing more than 1 acre of soil). If it is not possible to conduct these activities during that time frame, then Pinyon recommends that "clear and grub" nesting surveys be completed within planned work areas within 10 days prior to vegetation clearing. If active nests are noted, they should be flagged for avoidance until the young have left the nest. Inactive (unoccupied) nests may be removed at any time.

#### 4.1.2.5 *Black-tailed Prairie Dog*

If impacts to black-tailed prairie dog colonies (burrows) are unavoidable, lethal control methods may be necessary prior to construction (see Section 4.1.2.2). If lethal control is performed, coordination and permitting through CPW may be required.

#### 4.1.2.6 *Swift Fox*

Swift foxes often use prairie dog burrows to develop dens but may develop dens anywhere there is shortgrass prairie habitat. Swift fox pups are den-dependent from approximately March 15 to June 15. If construction occurs in shortgrass prairie habitat, which makes up a large portion of the project area, between March 15 and June 15, the following options should be considered to reduce impacts to swift fox:

- Option 1: Grub/till shortgrass prairie habitat within the project footprint and within 1/4 mile of proposed ground disturbance activities between June 15 and March 15 (note, a stormwater permit should be in place prior to disturbing more than 1 acre of soil).
- Option 2: Mow shortgrass prairie vegetation and fill in burrows within the project footprint and within 1/4 mile of proposed ground disturbance activities between June 15 and March 15. This option would not require a stormwater permit; however, this option may not be as thorough as Option 1 in removing swift fox habitat.
- Option 3: If it is not possible to conduct vegetation removal/hole filling or grubbing until the March 15 to June 15 time period, have a biologist conduct a swift fox survey prior to construction. If occupied dens are noted, avoid ground disturbance activities within 1/4 mile of the occupied den until the pups are no longer den-dependent.

## 4.2 **Migratory Birds**

Potential habitat for nesting birds, including ground nesting habitat and potential raptor nests, was identified in and within a 0.5-mile buffer of the project area. The nesting season for most birds generally occurs from April through August, although raptors may nest as early as February. As discussed in Section 4.1.2.4, protection of nests from incidental take has been in question recently. Should Pike Solar decide to minimize the potential for incidental take (as has been standard industry practice for years), vegetation-clearing and ground disturbing activities should be planned to take place outside of the nesting season (between August 31 and February 15; note, a stormwater permit should be in place prior to disturbing more than 1 acre of soil). If it is not possible to conduct these activities during that time frame, then Pinyon recommends that nesting surveys be completed within planned work areas within 10 days prior to vegetation clearing. If active nests are noted, they should be flagged for avoidance until the young have left the nest. Inactive (unoccupied) nests may be removed at any



time. If raptor nests are found in the project area or within 0.5 mile of the construction footprint, Pinyon recommends that Pike Solar coordinate with CPW on appropriate avoidance measures.

### **4.3 Noxious Weeds**

Noxious weeds typical of Colorado's Front Range are present in the project area. No List-A noxious weed species were noted, and the List B and List C weeds identified did not appear to be greater in densities than the surrounding areas (outside of the project area). Nevertheless, the project is required to minimize the spread of noxious weeds during operations. Given Pinyon's observations during the site visit, the size of project area, as well as knowledge of past studies in the area and county requirements, Pinyon recommends completing a Noxious Weed Management Plan prior to construction.

## **5. Limitations**

This report was prepared by Pinyon, at the request of and for the sole benefit of Pike Solar or any entity controlling, controlled by, or under common control with Pike Solar. 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.

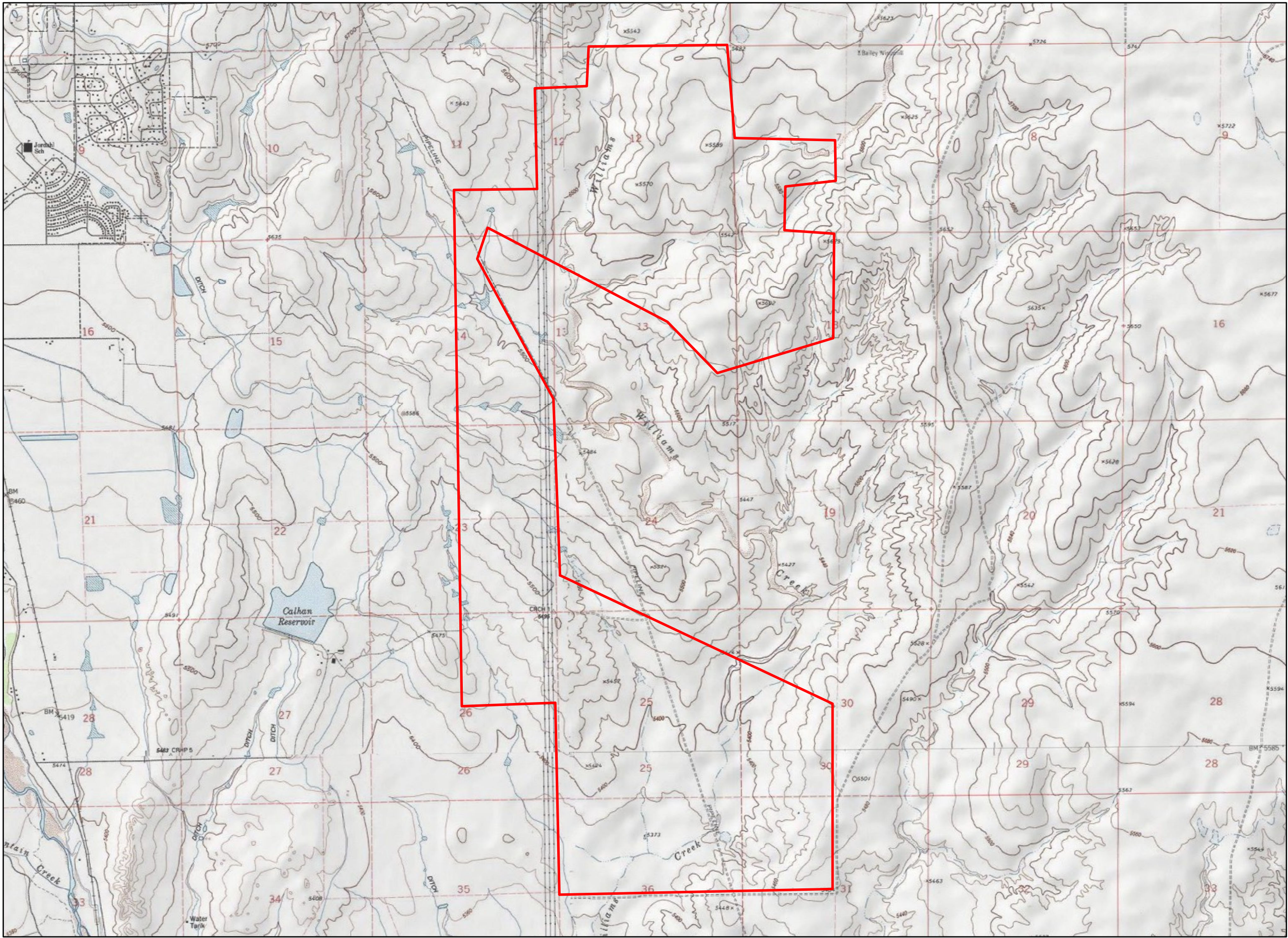


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## Figures





**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)



0 1,300 2,600  
Feet

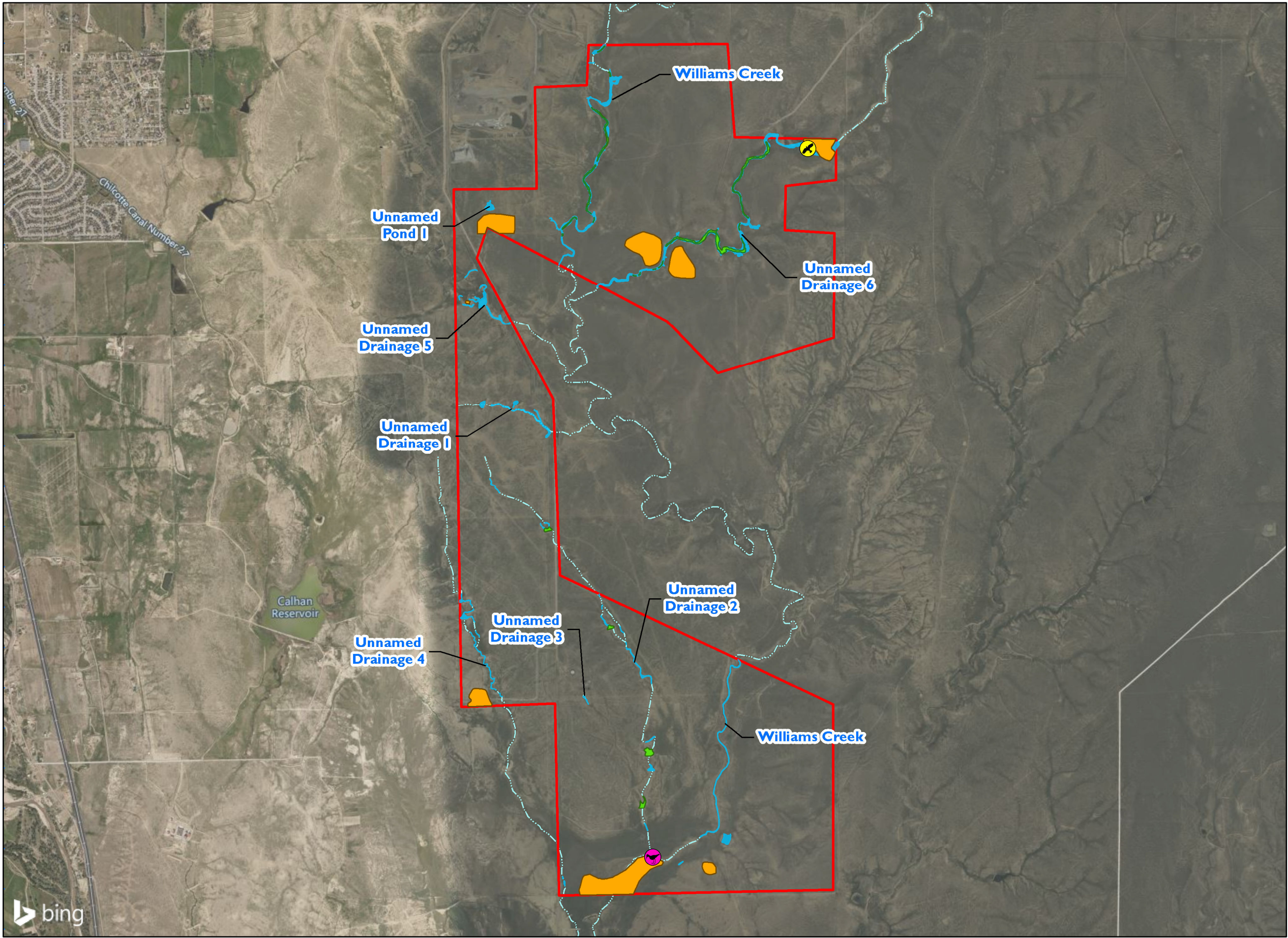
**Pinyon**  
Environmental, Inc.

**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

Drawn By: MJS/JAF	Figure: I
Reviewed By: PJW	Date: 10/13/2020

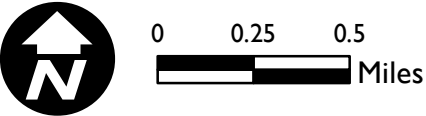




**Legend**

- Project Area
- Potential Raptor Nest
- Burrowing Owl Observed
- Active Black-tailed Prairie Dogs
- Wetlands\*
- Non-Wetland Water (OHWM in Project Area)\*
- Intermittent/Ephemeral Stream

\*Discussed under a separate cover.



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

Site Location: Multiple Sections, Township 16S, Ranges 64 and 65W, 6th Principal Meridian		Drawn By: MJS	Figure: 2
Pinyon Project Number: I/20-1215-02		Reviewed By: PJW	Date: 10/16/2020



## **Appendix A      Photographic Log**

Photo 1.  
Livestock grazing  
near standing  
water in  
northern half of  
the project area,  
facing northeast.



Photo 2. Annual  
sunflower  
(*Helianthus  
annuus*), kochia  
(*Bassia scoparia*)  
and other upland  
vegetation  
common  
throughout the  
project area,  
facing southwest.





Photo 3.  
Riparian area  
with powerline  
within the  
project area,  
facing southwest.



Photo 4. Salt  
cedar (*Tamarix  
chinensis*) near  
northern  
boundary of the  
project area,  
facing east.





Photo 5. Black-tailed prairie dog (*Cynomys ludovicianus*) burrows along western boundary of the project area, facing west.



Photo 6. Burrowing Owl (*Athene cunicularia*) in an active prairie dog colony near the southern boundary of the project area, facing north.





Photo 7.  
Williams Creek  
Pump Station  
near center of  
the project area,  
facing north.



Photo 8.  
Potential raptor  
nest near  
northeast corner  
of the study  
area, facing  
northeast.

