



Environment

Security PFC/PFAS Drinking Water  
Mitigation System Raw Water Pipeline,  
El Paso County, Colorado  
**Wetland Delineation and Biological  
Resources Report**

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## Contents

1.0	Introduction.....	1-1
2.0	Methods .....	2-1
2.1	General Biological Surveys .....	2-1
2.2	Wetland Delineation .....	2-1
2.3	Threatened and Endangered Species Assessment.....	2-1
3.0	Results .....	3-1
3.1	Project Area Overview and Habitats .....	3-1
3.2	Wetlands and Surface Waters.....	3-1
3.3	Threatened or Endangered Species.....	3-2
3.4	Other Biological Resources.....	3-3
4.0	Conclusions .....	4-4
5.0	References .....	5-1

## List of Tables

Table 1	Federally Listed Species With the Potential to Occur or be Affected by Project Activity Within the Study Area
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## List of Figures

Figure 1	Study Area
Figure 2	Wetlands and Other Waters

## List of Attachments

Attachment A	Photographic Log
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## 1.0 Introduction

The U.S. Army Corps of Engineers (USACE) and Security Water and Sanitation District (SWSD) are proposing to design and construct a Perfluorinated Compound and Per- and Polyfluoroalkyl Substances (PFC/PFAS) groundwater drinking water mitigation facility (DWMF). As part of this project, the discharge from existing permitted and operational groundwater wells will be piped to a raw water collection pipeline. The raw water pipeline will convey well water to the DWMF where it will pass through processes including pre-filtration, ion exchange, and a disinfection process in a dedicated pipeline and then will ultimately tie-in to the existing distribution system.

URS Group, Inc. (URS), an AECOM Company, is working with the USACE and SWSD to design and construct the project. The following report provides an evaluation of biological resources and wetlands and other waters potentially subject to permitting under Section 404 of the Clean Water Act. The study area included only those portions of the proposed raw water pipeline that would be placed in unpaved and relatively undisturbed areas.

The study area (Figure 1) is located in the north-western part of Security-Widefield, Colorado. It is in Section 2 of Township 15 South, Range 66 West, 6th Principal Meridian (P.M.) and is depicted on the Colorado Springs, Colorado, and Elsmere, Colorado 7.5 minute U.S. Geological Survey topographic quadrangle maps (USGS 1975, USGS 1961). The study area includes approximately one mile of proposed pipeline corridor. The width of the study area varies from 75 to 100 feet.

## 2.0 Methods

### 2.1 General Biological Surveys

General biological field surveys were conducted on November 29, 2018, by AECOM biologist Jeff Dawson. Prior to the field survey, maps were obtained showing the proposed pipeline route and study area (Figure 1). Detailed aerial imagery was obtained to use during the field work. Pedestrian surveys of the entire study area were conducted by using meandering transects to record notes on vegetation community structure and composition and wildlife and birds observed. The primary focus was on sensitive biological resources, such as raptor nests or prairie dog colonies, potential habitat for threatened or endangered species, and wetlands.

A desktop assessment was conducted prior to the initial field survey to identify potential wetlands and surface waters in the study area and other site information. Information collected and reviewed included current and historic aerial photographs (GoogleEarth 2017), web soil survey (NRCS 2018), topographic maps (USGS 1969, 2016), and National Wetland Inventory (U.S. Fish and Wildlife Service [USFWS] 2018a).

### 2.2 Wetland Delineation

AECOM biologist Jeff Dawson completed wetland delineations concurrent with the biological field surveys on November 29, 2018, to identify and evaluate surface waters and wetlands. Wetland delineations were conducted using the protocol outlined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and U.S. Army Corps of Engineers Regional Supplement to the *Corps of Engineers Wetland Delineation Manual: Great Plains Region Version 2.0 (Supplement)* (Environmental Laboratory 2010). Wetlands were identified in the field as areas having positive evidence of three environmental parameters: hydrophytic vegetation, hydric soils, and wetland hydrology.

During field surveys, wetlands were classified using the Cowardin classification system (Cowardin et al. 1979). Plant species were identified using Weber and Wittmann (2012), Ackerfield (2015) and other references relevant to the region. Wetland plant species names and indicator status were obtained from the National Wetland Plants List (Lichvar et al. 2016). Synonyms and other standardized common names were taken from Ackerfield (2015).

Surface water features (e.g., streams and ponds) were identified by the presence of a defined bed and bank, evidence of an Ordinary High Water Mark (OHWM), and less than 5 percent vegetative cover within the bed. Information recorded for each surface water feature included the average OHWM, average bankfull depth, bank slope, substrate composition, source of hydrology, dominant vegetation, percent overstory, and wildlife observed.

The boundaries of aquatic features were recorded by field mapping on detailed aerial imagery. All aquatic features were photographed. All vegetative habitats were characterized and dominant species recorded. After completing the field survey, data was overlaid on aerial photographs, and acreages of surface water features and wetlands were calculated.

### 2.3 Threatened and Endangered Species Assessment

An analysis of potential impacts to federally listed endangered and threatened species was made by evaluating habitat suitability for species potentially present in the study area. The list of species considered was obtained from the USFWS Information, Planning, and Conservation System (IPaC) website (USFWS 2018b).

## 3.0 Results

### 3.1 Project Area Overview and Habitats

The study area only includes the portion of the proposed pipeline from Bradley Road north and east to the crossing of the Fountain Mutual Irrigation Company (FMIC) Canal No. 4. The study area includes undeveloped lands, the edges of rural residential properties and gravel mines, and a portion of a solar energy facility. Part of the proposed pipeline route passes through the bed of the former Little Johnson Reservoir. The study area is at an elevation of approximately 5,840 feet. The study area is in the Fountain Creek 8-digit hydrographic unit (11020003) (USGS 2018). The FMIC Canal is shown on the National Wetland Inventory as an intermittent streambed (USFWS 2018a). The FMIC Canal originates at Fountain Creek and flows to Big Johnson Reservoir. Soils in the study area are mapped as Blakeland loamy sand, 1 to 9 percent slopes (NRCS 2018). Photographs of the study area are provided in Attachment A.

The study area includes the following habitats:

- Siberian elm woodlands. Groves of Siberian elm (*Ulmus pumila*) occur along the edges and in the bed of the former Little Johnson Reservoir, along former ditches, and along property lines. There are also small groves of Siberian elm in mid-grass prairie. Some plains cottonwood (*Populus deltoides*) and Russian olive (*Elaeagnus angustifolia*) are also present. The understory vegetation is similar to mid-grass prairie.
- Mid-grass prairie. The dominant species in this habitat type are sand dropseed (*Sporobolus cryptandrus*) and blue grama (*Bouteloua gracilis*). Other species present include Mexican fireweed (*Kochia scoparia*), western wheatgrass (*Pascopyrum smitthii*), annual sunflower (*Helianthus annuus*), Russian thistle (*Salsola tragus* and *Salsola collina*), western prickly pear (*Opuntia macrorhiza*), fringed sage (*Artemisia frigida*), tarragon (*Artemisia dracunculoides*), plains yucca (*Yucca glauca*), blazingstar (*Mentzelia* sp.), and a limited amount of prairie sandreed (*Calamovilfa longifolia*).
- Weedy forbs. Large patches of mostly annual weeds occur in areas that appear to have had past disturbance. The most abundant species in these areas is Mexican fireweed. Sumpweed (*Iva axillaris*), horseweed (*Conyza canadensis*), and Canada thistle (*Cirsium arvense*) also occur in some areas.
- Disturbed. Disturbed and mostly unvegetated areas occur in dirt roads and some other graded areas.

### 3.2 Wetlands and Surface Waters

No wetlands are present in the study area. One aquatic resource, the FMIC Canal, was delineated in the study area (Figure 2). The FMIC Canal parallels the eastern edge of the study area and has one proposed pipeline crossing. This canal has an estimated width of 10 to 12 feet, an OHWM of about 18 inches, and a sand bed. FMIC Canal was dry at the time of survey. The canal is identified by National Wetlands Inventory (USFWS 2018a) as R4SB (intermittent streambed), which is indicative of conditions observed in the field. The banks are vegetated with reed canarygrass (*Phalaris arundinacea*), sumpweed, annual sunflower, Mexican fireweed, and other herbaceous species. Photographs of the FMIC Canal are included in Attachment A.

The National Wetlands Inventory, web soil survey, and topographic maps show the pipeline crossing a portion of Little Johnson Reservoir. This former reservoir has not had water since at least 1999, according to historic photographs on GoogleEarth®, and parts of it are now a solar energy facility.

It is not clear whether the FMIC ditch is considered to be a jurisdictional water of the U.S. by the USACE. In general, canals and ditches that deliver water only to uplands are non-jurisdictional, while those that have return flows to perennial waters are considered jurisdictional. The FMIC Canal does not appear to

have a return flow connection to Fountain Creek. If the canal is non-jurisdictional, no Section 404 permitting would be required for the canal crossing. If the canal is jurisdictional, the proposed open-cut crossing is anticipated to be authorized under nationwide permit 12 Utility Line Discharges (Corps of Engineers 2017). This nationwide permit authorizes the construction, maintenance, repair and removal of utility lines and associated facilities in waters of the U.S., provided that losses of waters of the U.S. are less than 0.5 acre and that there is no change in pre-construction contours. There are several project criteria that require a pre-construction notification, including mechanized clearing in a forested wetland, a Section 10 permit for impacts to navigable waterways, impacts to waters of the U.S. of more than 500 feet or 0.1 acre, and permanent access roads constructed above grade or with impervious materials. None of these criteria appear to apply to this project. The proposed FMIC Canal crossing would be authorized under nationwide permit 12 without requiring notification to the USACE regulatory office, as long as the pre-construction notification conditions are not applicable to the project and the nationwide permit general conditions are followed.

### 3.3 Threatened or Endangered Species

The USFWS Mountain-Prairie Region (Region 6) lists nine federally proposed, candidate, threatened, or endangered species or subspecies with the potential to occur within the study area or be affected by the project (USFWS 2018b). Table 1 describes these species and their potential for occurrence within the study area. . Four of the species have the potential to occur in the study area and the other five are only relevant for projects involving water-related activities in the North Platte, South Platte, and Laramie River Basins that may affect listed species associated with the Platte River in Nebraska. The study area does not have suitable habitat for any of these species, and is not located in the Platte River watershed. The project will have no effect to federally listed endangered or threatened species.

The USFWS list of potential species does not include Preble's meadow jumping mouse (*Zapus hudsonius preblei*), which is a federally listed threatened species occurring in other portions of El Paso County. Preble's meadow jumping mouse is not known to occur south of Colorado Springs. The study area is also within a previously identified block clearance area where Preble's meadow jumping mouse is not known or expected to occur (UFSWS 2012).

**Table 1 – Federally Listed Species With the Potential to Occur or be Affected by Project Activity Within the Study Area**

Common Name	Scientific Name	Status <sup>1</sup>	Habitat Description <sup>2</sup>	Potential For Occurrence in Study Area <sup>3</sup>	Conclusion
<b>Birds</b>					
Piping plover	<i>Charadrius melodus</i>	FT	Open, sparsely vegetated sand or gravel benches adjacent to alkali wetlands; on beaches, sandbars, and dredged material islands of major river systems and reservoirs. Relevant to projects in Colorado that involve water depletions to the Platte River System.	No suitable habitat in study area. The project would not result in depletions that could impact the species lower in the watershed.	<i>No effect.</i>
Whooping crane	<i>Grus americana</i>	FE	Migrates through central Nebraska. Relevant to projects in Colorado that involve water depletions to the Platte River System.	No suitable habitat in study area. The project would not result in depletions that could impact the species lower in the watershed.	<i>No effect.</i>
Least tern	<i>Sterna antillarum</i>	FE	Barren areas near water, such as saline salt marshes, sandbars in river beds, and shores of large impoundments. Relevant to projects in Colorado that involve water depletions to the Platte River System.	No suitable habitat in study area. The project would not result in depletions that could impact the species lower in the watershed.	<i>No effect.</i>

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Mexican spotted owl	<i>Strix occidentalis lucida</i>	FT	Forested mountains and canyons with mature trees that create high closed canopies.	No suitable habitat in study area.	<i>No effect.</i>
<b>Mammals</b>					
North American wolverine	<i>Zapus hudsonius preblei</i>	PT	Occurs in a wide variety of alpine, arctic, and boreal habitats, including high elevation portions of Colorado.	No suitable habitat is present.	<i>No effect.</i>
<b>Fishes</b>					
Pallid sturgeon	<i>Scaphirhynchus albus</i>	FE	Floodplains, backwaters, chutes, sloughs, islands, sandbars, and main channel waters. Relevant to projects in Colorado that involve water depletions to the Platte River System.	No suitable habitat in study area. The project would not result in depletions or affect water quality that could impact the species lower in the watershed.	<i>No effect.</i>
Greenback cutthroat trout	<i>Oncorhynchus clarki stomias</i>	FT	Clear, swift-flowing mountain streams with cover such as overhanging banks and vegetation.	No suitable habitat in study area.	<i>No effect.</i>
<b>Plants</b>					
Western prairie fringed orchid	<i>Platanthera praecleara</i>	FT	Unplowed, calcareous tall grass prairies and sedge meadows. Relevant to projects in Colorado that involve water depletions to the Platte River System.	No suitable habitat in study area. The project would not result in depletions that could impact the species lower in the watershed.	<i>No effect.</i>
Ute ladies'-tresses orchid	<i>Spiranthes diluvialis</i>	FT	Moist meadows associated with perennial stream terraces, floodplains, and oxbows at elevations between 4,300 and 6,850 feet.	No suitable habitat in study area.	<i>No effect.</i>

<sup>1</sup>FE = federally endangered, FT = federally threatened, PT = federally proposed threatened (USFWS 2018b).

<sup>2</sup>Habitat information source: USFWS 2018c

<sup>3</sup>Potential for occurrence is based on field surveys and desktop analysis.

### 3.4 Other Biological Resources

No raptor nests were observed within or near the study area. No unusual or potentially sensitive habitats were observed. Birds observed included great horned owl (*Bubo virginianus*) and northern harrier (*Circus cyaneus*).

The woodlands and grasslands in the study area provide potential nesting habitat for various species of migratory birds. Migratory birds, active nests, eggs, and young are protected under the Migratory Bird Treaty Act, which prohibits unpermitted take or interference with nesting. Removal of vegetation should be scheduled to avoid the nesting season, which for most species is mid-April to August 15. Some raptor

and owl species begin nesting as early as February. If clearing of land will occur during the nesting season, a survey must be completed to identify whether any active nests are present. If active nests are in the proposed construction area, construction needs to be delayed near the nests until the young birds have fledged and the nests have been abandoned.

## 4.0 Conclusions

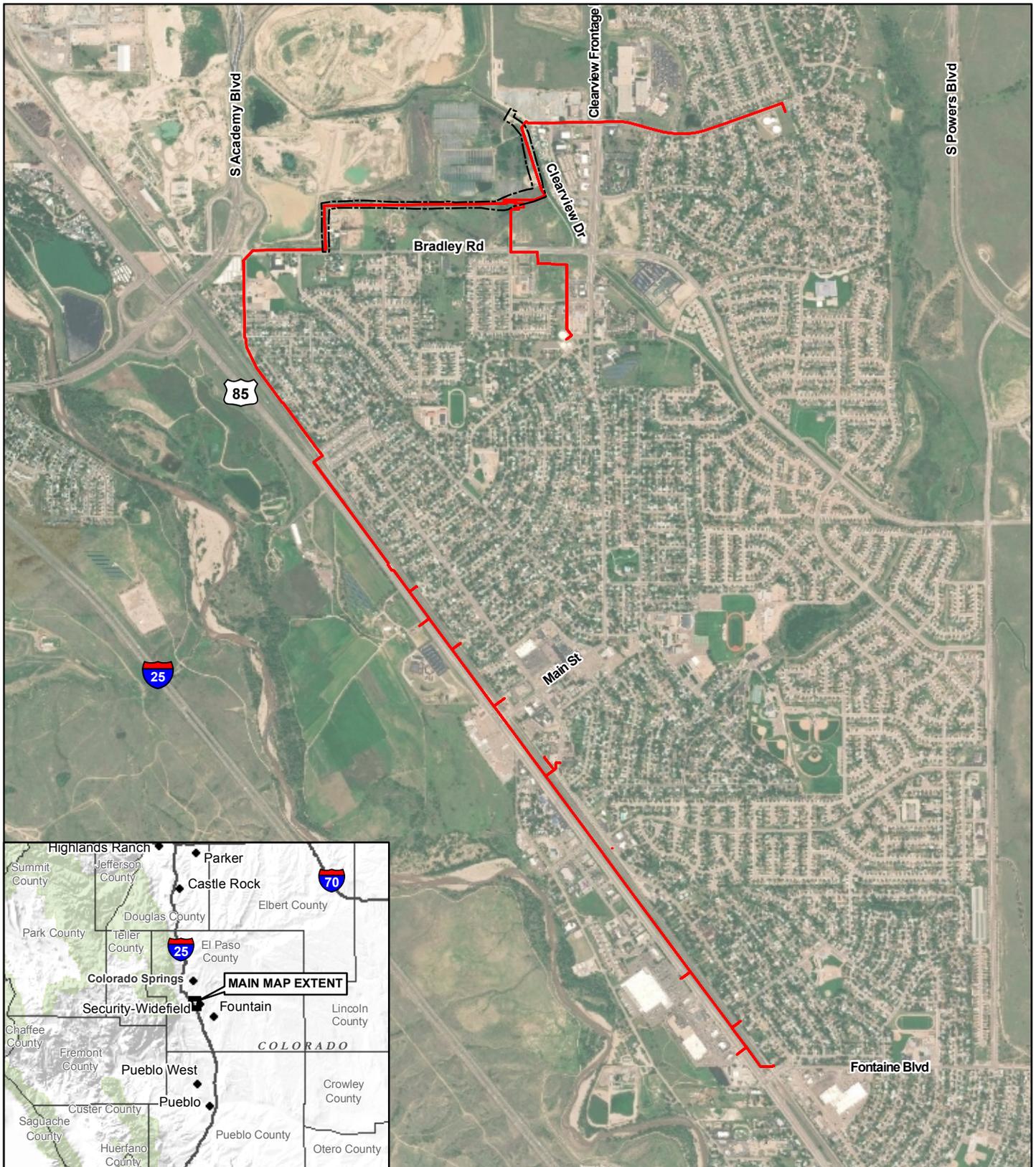
The USACE and SWSD are proposing construction of a DWMF including a raw water pipeline. A biological survey and wetland delineation of about one mile of proposed pipeline route was conducted on November 29, 2018.

The study area is mostly undeveloped land with Siberian elm groves and mid-grass prairie. No wetlands, raptor nests, or other sensitive biological resources were observed. Construction of the pipeline would involve one open-cut crossing of FMIC Canal No. 4. If this canal is a water of the U.S. under the jurisdiction of Section 404 of the Clean Water Act, the canal crossing could be constructed under authorization of nationwide permit 12 without notification to the USACE regulatory office, as long as regional and nationwide permit conditions are followed. If the canal is not a water of the U.S., Section 404 would not be applicable.

## 5.0 References

- Ackerfield, J. 2015. *Flora of Colorado*. Botanical Research Institute of Texas Press, Fort Worth, Texas.
- Cowardin, L.M., V. Carter, F.C. Golet, and E. T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service, FWS OBS-79/31.
- Department of the Army, Corps of Engineers. 2017. Issuance and Reissuance of Nationwide Permits. Final Rule. Federal Register 84(4): 1859-2008. January 6.
- Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS. January.
- \_\_\_\_\_. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0). ERDC/EL TR-10-1. U.S. Army Corps of Engineers, Engineer Research and Development Center, Vicksburg, MS. March.
- Google Earth Pro (Google Earth). 2017. Imagery date 6/9/2017. Accessed multiple dates.
- Lichvar, R. W., D. L. Banks, W. N. Kirchner, and N. C. Melvin. 2016. The National Wetland Plant List: 2016 Wetland Ratings. *Pytoneuron* 2016-30: 1-17. Accessed at [http://wetland\\_plants.usace.army.mil/](http://wetland_plants.usace.army.mil/).
- U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS). 2018. Web Soil Survey, Custom Soil Report for El Paso County Area, Colorado. Version 16, September 10, 2018. Accessed December 16, 2018.
- U.S. Fish and Wildlife Service. 2012. Preble's meadow jumping mouse block clearance map: Colorado Springs. USFWS Mountain-Prairie Region. <https://www.fws.gov/mountain-prairie/es/preblesMeadowJumpingMouse.php>
- U.S. Fish and Wildlife Service (USFWS). 2018a. *National Wetlands Inventory* (Online Mapper). Available at: <http://107.20.228.18/Wetlands/WetlandsMapper.html#>. Wetlands mapping dated 1999. Accessed December 16, 2018.
- \_\_\_\_\_. 2018b. IPaC resource list. IPaC - Information, Planning, and Conservation System. Available at: <http://ecos.fws.gov/ipac/>. Accessed: December 16, 2018.
- \_\_\_\_\_. 2018c. Species Descriptions in Endangered Species, Mountain-Prairie Region website. Available at: <https://www.fws.gov/mountain-prairie/es/endangered.php>
- U.S. Geological Survey (USGS). 1975. *7.5-Minute Topographic Quadrangle – Colorado Springs, Colorado*.
- \_\_\_\_\_. 1961. *7.5-Minute Topographic Quadrangle – Elsmere, Colorado*.
- USGS. 2018 *National Map – Hydrography*. *The National Map Download Viewer*. <https://www.usgs.gov/core-science-systems/ngp/national-hydrography/access-national-hydrography-products>. Accessed December 16, 2018.
- Weber, W. A., and R. C. Wittman. 2012. *Flora of Colorado, Eastern Slope*. University Press of Colorado.

**Figures**



**Legend**

- Proposed Pipeline Alignment
- Study Area



1 inch = 2,000 feet

**Security Drinking Water Mitigation System**

**Figure 1  
Study Area**



**Legend**

- Proposed Pipeline Alignment
- Study Area
- Water



1 inch = 500 feet

**Security Drinking Water Mitigation System**

Figure 2  
Wetlands and  
Other Waters

**Attachment A  
Photographic Log**



1. View to northeast from about middle of study area. Pipeline would be located south of solar facility.



2. View to south, middle of study area. Pipeline would be placed to south of parked vehicles.



3. View to west from about middle of study area. Pipeline would be placed south of dirt road.



4. Typical habitats– weedy grassland and Siberian elm groves. Looking west, solar facility on right.



5. FMIC Canal, looking north. Pipeline will parallel west side of canal. Trees on right are on property line, trees in background are along former shore of Little Johnson Reservoir.



6. FMIC Canal, looked southeast. Proposed pipeline crossing is before the bend in the canal.