ERO

Consultants in Natural Resources and the Environment

Natural Resources Assessment
Woodmoor Lake Pump Station No. 2 and Pipeline
Northeast of Woodmoor Drive and Lake Woodmoor Drive
El Paso County, Colorado

Prepared for—

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ERO Project #21_047

March 23, 2021

Contents

Tables

Figures

Appendices

Executive Summary

JVA Consulting Engineers, Inc. (JVA Consulting) retained ERO Resources Corporation (ERO) to provide a natural resources assessment for the Woodmoor Lake Pump Station No. 2 and Pipeline project northeast of Woodmoor Drive and Lake Woodmoor Drive in El Paso County, Colorado (project area). ERO assessed the project area for potential wetlands and other waters of the U.S., threatened and endangered species habitat, and general wildlife use. Below is a summary of the resources found at the project area and recommendations or future actions necessary based on the current site conditions and federal, state, and local regulations.

The natural resources and associated regulations described in this report are valid as of the date of this report and may be relied upon for the specific use for which it was prepared by ERO under contract to JVA Consulting. Because of their dynamic natures, site conditions and regulations should be reconfirmed by a qualified consultant before relying on this report for a use other than that for which ERO was contracted.

Wetlands and Other Waters of the U.S. – An isolated wetland (Wetland 1) is located in a detention area in the western part of the project area. In addition, parts of Woodmoor Lake overlap the eastern part of the project area. ***If Wetland 1 or Woodmoor lake are determined jurisdictional and if any work is planned in Wetland 1 or Woodmoor Lake, a Section 404 permit would be required from the U.S. Army Corps of Engineers (Corps) for the placement of dredged or fill material in wetlands or below the ordinary high water mark.*** If no work is planned in Wetland 1 or Woodmoor Lake, or if the Corps determines Wetland 1 and Woodmoor Lake are nonjurisdictional, no Section 404 permit would be necessary. Because Woodmoor Lake is most likely considered jurisdictional, ERO recommends moving forward with requesting a Nationwide Permit verification from the Corps.

Threatened and Endangered Species – The project area does not contain habitat for any federally listed threatened or endangered species. Because of the lack of adequate shrub cover, a well-developed herbaceous understory, or a continuous riparian corridor between the nearest Preble's meadow jumping mouse (Preble's) capture site and the project area, ERO determined that Preble's is unlikely to be present in the project area. A perennial tributary to Fountain Creek does not occur in the project area and the project area is in El Paso County; therefore, the site does not fall within the U.S. Fish and Wildlife Service's (Service) guidelines for Ute ladies'-tresses orchid (ULTO) surveys and no action is necessary regarding ULTO. Because the project will likely require a Section 404 permit, the Corps is the lead agency for Endangered Species Act compliance, and ERO recommends providing a copy of this report and the habitat assessment to the Corps to request confirmation that the project area does not contain habitat for any federally listed threatened or endangered species.

Migratory Birds – No bird nests were observed during the 2021 site visit; however, trees, shrubs, and upland grasslands in the project area provide potential nesting habitat. The Denver Field Office of the Service (2009) and Colorado Department of Transportation (2011) have identified the primary nesting season for migratory birds in eastern Colorado as occurring from April 1 through August 31. However, some birds, such as the red-tailed hawk and great horned owl, can nest as early as February or March. Because of variability in the breeding seasons of various bird species, ***ERO recommends a nest survey be conducted within one week prior to construction*** to determine if any active nests are present in the project area so they can be avoided. If active nests are found, any work that would destroy the nests should not be conducted until the birds have vacated the nests.

Other Wildlife – The project area occurs in Albert's squirrel, black bear, black-tailed prairie dog, Canada goose, dwarf shrew, elk, mountain lion, mule deer, white-tailed deer, white-tailed jackrabbit, wild turkey, Hernandez's short-horned lizard, painted turtle, prairie lizard, plateau fence lizard, and various snakes' overall range; however, none of these species were observed during the 2021 site visit. No other sensitive species occur in the project area that would be significantly adversely affected by the proposed project. Overall, surrounding and continuing development contributes to a decline in the number and diversity of wildlife species nearby and to a change in species composition.

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Northeast of Woodmoor Drive and Lake Woodmoor Drive
El Paso County, Colorado

March 23, 2021

Introduction

JVA Consulting Engineers, Inc. (JVA Consulting) retained ERO Resources Corporation (ERO) to provide a natural resources assessment for the Woodmoor Lake Pump Station No. 2 and Pipeline project northeast of Woodmoor Drive and Lake Woodmoor Drive in El Paso County, Colorado (project area; Figure 1). On February 22, 2021, Anna Hennage, a biologist, and Anna Wistrom, a natural resource technician, with ERO assessed the project area for natural resources (2021 site visit). During this assessment, activities included a review of potential wetlands and other waters of the U.S., identification of potential federally threatened and endangered species habitat, and identification of other natural resources. This report provides information on existing site conditions and resources, as well as current regulatory guidelines related to those resources. ERO assumes the landowner is responsible for obtaining all federal, state, and local permits for construction of the project.

The natural resources and associated regulations described in this report are valid as of the date of this report and may be relied upon for the specific use for which it was prepared by ERO under contract to JVA Consulting. Because of their dynamic natures, site conditions and regulations should be reconfirmed by a qualified consultant before relying on this report for a use other than that for which ERO was contracted.

Project Area Location

The project area is in Sections 11 and 14, Township 11 South, Range 67 West of the 6th Principal Meridian in El Paso County, Colorado (Figure 1). The UTM coordinates for the approximate center of the project area are 512385mE, 4327860mN, Zone 13 North. The longitude/latitude of the project area is 104.856772°W/39.099784°N. The elevation of the project area is approximately 7,100 feet above sea level. Photo points of the project area are shown on Figure 2a through 2d, and the photo log is in Appendix A.

Project Area Description

The project area is bounded by Woodmoor Drive to the west, Lake Woodmoor Drive to the south, Lower Lake Road to the east, and Deer Creek Road to the north. Residential and commercial buildings border the entire project area (Figure 2a through 2d).

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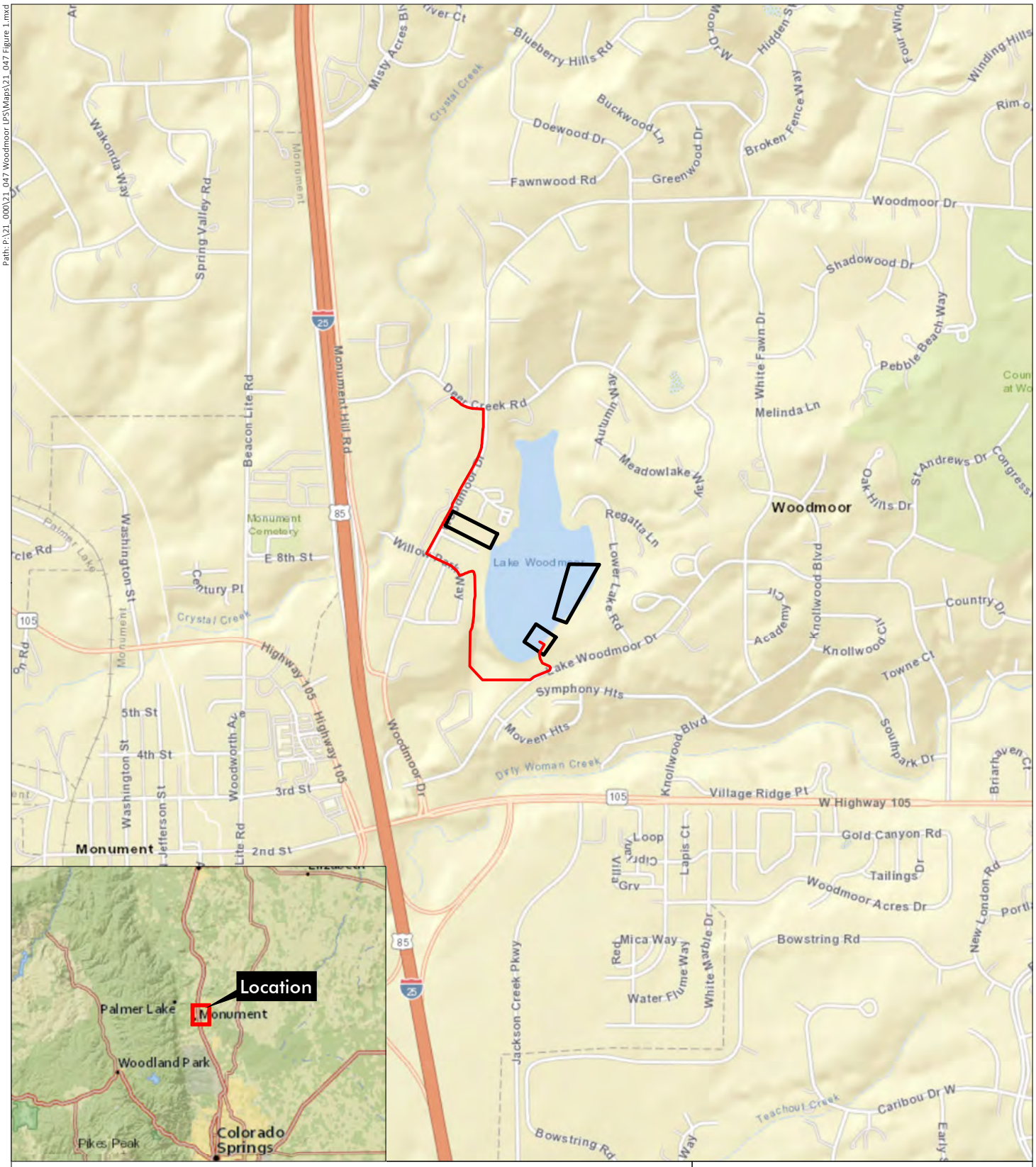


Woodmoor Lake Pump Station No. 2 and Pipeline

Sections 11 and 14, T11S, R67W; 6th PM

UTM NAD 83: Zone 13N; 512385mE, 4327860mN

Longitude 104.856772°W, Latitude 39.099784°N

USGS Monument, CO Quadrangle

El Paso County, Colorado

Pipeline Alignment

Project Area

0 750 1,500 Feet

N

Figure 1
Vicinity Map

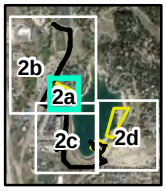
Prepared for: JVA, Inc.
File: 21_047 Figure 1.mxd (GS)
March 18, 2021

ERO Resources Corp.

Path: P:\21_000\21_047 Woodmoor LPS\Maps\21_047 Figure 2a.mxd

Woodmoor Lake Pump Station No. 2 and Pipeline

- Photo Point
- Data Point
- Pipeline Alignment
- Limit of Work
- Ordinary High Water Mark (2.200 ac)
- Wetland (0.172 ac)
- Project Area Boundary



0 40 80 Feet

N

Figure 2a
Existing Conditions

Image Source: Google Earth©, October 2019

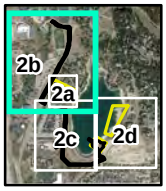
Prepared for: JVA, Inc.
File: 21_047 Figure 2a.mxd (GS)
March 18, 2021

ERO Resources Corp.

Path: P:\21_000\21_047 Woodmoor LPS\Maps\21_047 Figures 2b.mxd

Woodmoor Lake Pump Station No. 2 and Pipeline

- Pipeline Alignment
- Limit of Work
- Ordinary High Water Mark (2.200 ac)
- Wetland (0.172 ac)
- Project Area Boundary



0 125 250 Feet

N

Figure 2b
Existing Conditions

Image Source: Google Earth©, October 2019

Prepared for: JVA, Inc.
File: 21_047 Figures 2b.mxd (GS)
March 18, 2021

ERO
ERO Resources Corp.

Path: P:\21_000\21_047_Woodmoor LPS\Maps\21_047 Figures 2c & 2d.mxd

Woodmoor Lake Pump Station No. 2 and Pipeline

- Photo Point
- Data Point
- Pipeline Alignment
- Limit of Work
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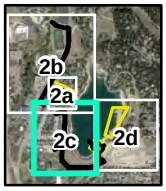
- Project Area Boundary



0 90 180 Feet

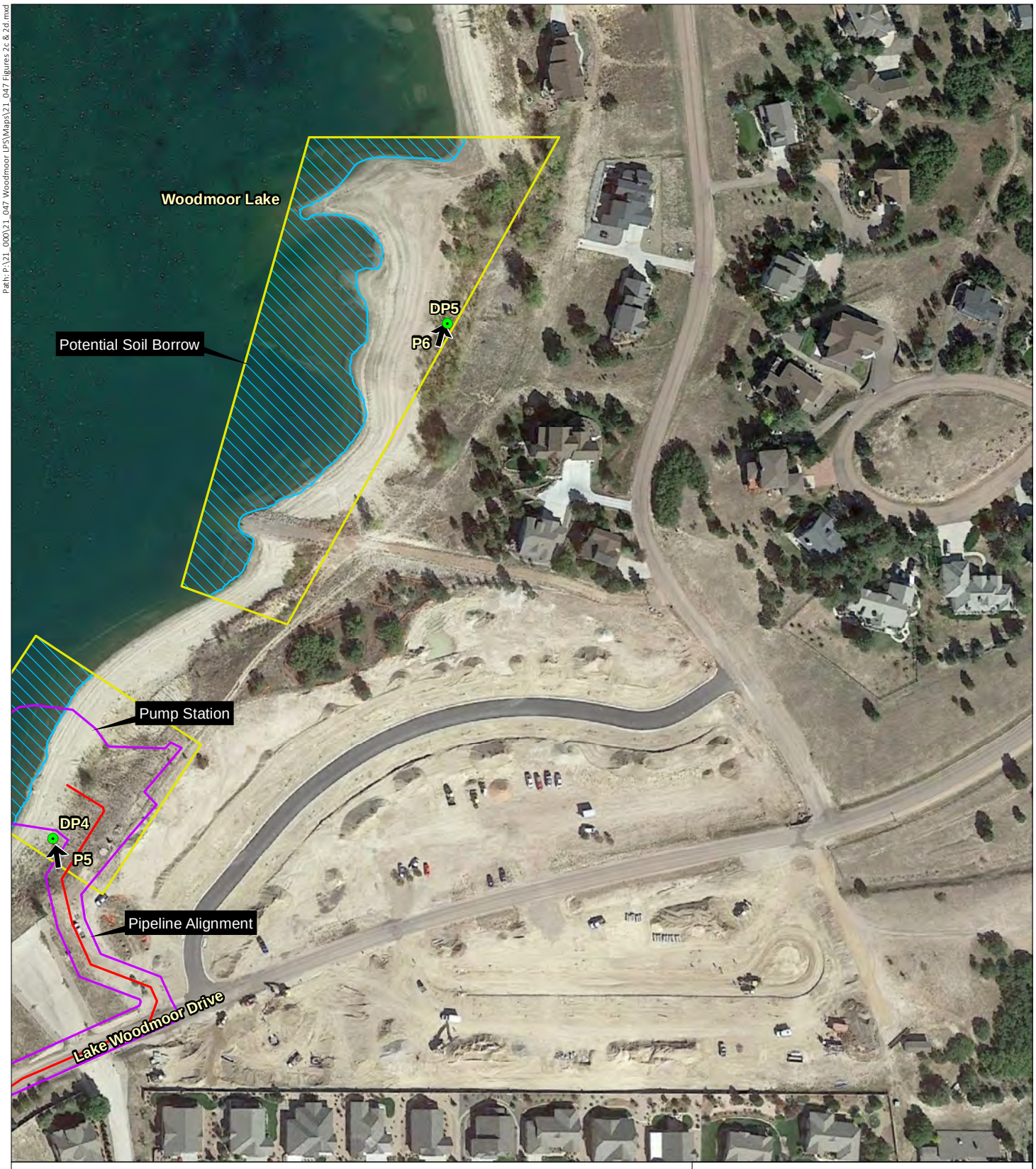
N

Figure 2c
Existing Conditions

Image Source: Google Earth©, October 2019

Prepared for: JVA, Inc.
File: 21_047 Figures 2c & 2d.mxd (GS)
March 18, 2021

ERO Resources Corp.



Woodmoor Lake Pump Station No. 2 and Pipeline

- Photo Point
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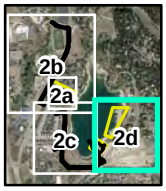

0 90 180 Feet

N

Figure 2d
Existing Conditions

Image Source: Google Earth©, October 2019

Prepared for: JVA, Inc.
File: 21_047 Figures 2c & 2d.mxd (GS)
March 18, 2021

ERO Resources Corp.

The majority of uplands in the project area are dominated by native and nonnative upland species including smooth brome (*Bromus inermis*), Kentucky bluegrass (*Poa pratensis*), hairy false goldenaster (*Heterotheca villosa*), diffuse knapweed (*Centaurea diffusa*), pennycress (*Thlaspi arvense*), crested wheatgrass (*Agropyron cristatum*), common mullein (*Verbascum thapsus*), mountain mahogany (*Cercocarpus montanus*), ponderosa pine trees (*Ponderosa pine*), and scrub oak (*Quercus berberidifolia*) (Photos 1 through 4). The vegetation bordering Woodmoor Lake in the eastern part of the project area consists primarily of riparian habitat dominated by sandbar willow (*Salix exigua*) and plains cottonwood trees (*Populus deltoides*) with a sparsely vegetated understory of upland vegetation dominated by diffuse knapweed, hairy false goldenaster, pennycress, and smooth brome (Photos 5 and 6). The shoreline of Woodmoor Lake was covered by snow at the time of the 2021 site visit; however, vegetation was confirmed by identifying species beneath the snow in multiple locations and aerial imagery.

A wetland (Wetland 1) is located within a stormwater detention basin in the western portion of the project area (Photo 7; Figure 2a) and is dominated by broadleaf cattail (*Typha latifolia*), Emory's sedge (*Carex emoryi*), redtop (*Agrostis gigantea*), and sandbar willow. Wetland 1 is bordered by upland vegetation and ponderosa pine trees (Photo 8; Figure 2a).

Wetlands and Other Waters of the U.S.

Background

The Clean Water Act (CWA) protects the chemical, physical, and biological quality of waters of the U.S. The U.S. Army Corps of Engineers' (Corps) Regulatory Program administers and enforces Section 404 of the CWA. Under Section 404, a Corps permit is required for the discharge of dredged or fill material into wetlands and other waters of the U.S. (streams, ponds, and other waterbodies). On June 22, 2020, the Environmental Protection Agency (EPA) and Corps' Navigable Waters Protection Rule (NWPR) to define "waters of the United States" became effective in 49 states and in all U.S. territories. A preliminary injunction was granted for Colorado. On March 2, 2021, the United States Court of Appeals for the 10th Circuit vacated the stay on the NWPR in Colorado, thereby ruling the NWPR effective in Colorado. The Corps received guidance that approved jurisdictional determinations can be made under the Rapanos guidelines until April 23, 2021. After that time, jurisdiction of wetlands and other potential waters of the U.S. in Colorado will be determined using the NWPR.

Under the Rapanos guidelines, the Corps considers traditionally navigable waters (TNWs), wetlands adjacent to a TNW, and tributaries to TNWs that are relatively permanent waters (RPWs) and their abutting wetlands jurisdictional waters. Other wetlands and waters that are not TNWs or RPWs will require a significant nexus evaluation to determine their jurisdiction. A significant nexus evaluation assesses the flow characteristics and functions of a tributary and its adjacent wetlands to determine if they significantly affect the chemical, physical, or biological integrity of downstream TNWs.

The NWPR outlines four categories of waters of the U.S.: (1) territorial seas and TNWs; (2) tributaries; (3) lakes, ponds, and impoundments of jurisdictional waters; and (4) adjacent wetlands. Under the NWPR, tributaries include perennial and intermittent rivers and streams that contribute surface flow to TNWs in a typical year. Ditches are to be considered tributaries only where they satisfy the flow conditions of the perennial and intermittent tributary definition and were constructed in or relocate a tributary or were constructed in an adjacent wetland and contribute perennial or intermittent flow to a TNW in a typical year (EPA 2020). Adjacent wetlands are generally defined under the NWPR as those physically touching other jurisdictional waters; separated from a water of the U.S. by only a natural berm, bank, or dune; inundated by flooding from a water of the U.S.; or wetlands that are physically separated by certain artificial structures so long as the structure allows for a direct hydrologic surface connection between the wetlands and the jurisdictional water in a typical year.

Methods

During the 2021 site visit, ERO surveyed the project area for wetlands, streambeds, and open waters. In addition to assessing the project area for potential isolated wetlands, jurisdictional wetlands, and other waters of the U.S., ERO conducted a jurisdictional wetland delineation. Prior to the 2021 site visit, ERO reviewed U.S. Geological Survey (USGS) quadrangle topographic maps and aerial photography to identify mapped streams and areas of open water that could indicate wetlands or waters of the U.S.

ERO followed the methods for routine on-site wetland determinations as described in the 1987 *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). ERO used methods in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valley, and Coast Region (Version 2.0)* (Corps 2010) to record data on vegetation, soils, and hydrology on routine determination forms (Appendix B). Wetlands were determined based on the presence of three wetland indicators: hydrophytic vegetation, hydric soils, and wetland hydrology. Wetland boundaries were determined by a visible change in vegetation community, topographic changes, and other visible distinctions between wetlands and uplands.

The wetland indicator status of plant species was identified using the *National Wetland Plant List* (Corps 2018), taxonomy was determined using *Colorado Flora: Eastern Slope* (Weber and Wittmann 2012), and nomenclature was determined using *PLANTS Database* (U.S. Department of Agriculture, Natural Resources Conservation Service (USDA, NRCS) 2021a). Wetlands were classified according to the U.S. Fish and Wildlife Service's (Service) Cowardin classification system (Cowardin et al. 1979) combined with a hydrogeomorphic approach (Brinson 1993). Hydric soils were identified using field observation for hydric soil indicators accepted by the Corps. A Munsell soil color chart was used to determine soil color. Wetland locations and classifications were supported by USGS topographic maps, aerial photography, and the Soil Survey (USDA, NRCS 2021b).

Intermittent, ephemeral, and perennial drainages with characteristics of a defined streambed, streambank, ordinary high water mark (OHWM), and other erosional features also were identified. The Corps defines "stream bed" as "the substrate of the stream channel between the OHWMs. The substrate may be bedrock or inorganic particles that range in size from clay to boulders." The Corps

defines "ordinary high water mark" as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the soil character, destruction of terrestrial vegetation, presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (33 Code of Federal Regulations (CFR) 328.3(e)).

The dimensions of drainages with these characteristics and the boundaries of identified wetlands either were drawn onto aerial photographs or mapped using a Global Positioning System (GPS) unit. GPS data were differentially corrected using the CompassCom base station. All differential correction was completed using Trimble Pathfinder Office 5.9 software. GPS data were incorporated onto base mapping using ARC Geographic Information System software.

To assist the Corps in making a preliminary jurisdictional determination, ERO reviewed the proximity and potential surface water connection of wetlands to known jurisdictional waters of the U.S. using aerial photo interpretation, landowner information, and information from the wetland survey. Potential waters of the U.S., including wetlands, identified in the project area are shown on Figure 2a through 2d. Data were collected in the project area to document the characteristics of uplands and potential wetlands. ERO applied the routine method by determining the plant community types in the project area and completed data forms for representative data points (DPs) in each community type. Wetland determination data forms from the Regional Supplement were completed for each representative DP to determine which community types were wetlands (Appendix B). Where wetlands bordered uplands, data were collected from a set of upland and wetland DPs, which determined indicators of the boundary between wetlands and nonwetlands. Each DP was assigned a unique label. Three DPs were completed in the wetland delineation area and were given labels that correspond to a location shown on Figure 2a through 2d and a routine wetland determination form (Appendix B).

The following sections contain information on potential surface water connections of wetlands and other waters in the project area.

Project Area Conditions

Open Water

Woodmoor Lake is within portions of the project area and is shown on the National Hydrography Dataset (NHD) as a perennial lake that is fed by an unnamed intermittent stream and has a downstream connection to the Arkansas River, a known water of the U.S. During the 2021 site visit, ERO mapped a total of 2.20 acres of ordinary high water mark in the project area.

Wetlands

During the 2021 site visit, one broadleaf cattail-dominated wetland was mapped in the western part of the project area (Wetland 1; Figure 2a). ERO mapped a total of 0.172 acre of wetlands in the project area. Wetland 1 is in a stormwater detention basin between residential buildings. Wetland 1 appears to receive stormwater runoff from residential developments to the north and south and Woodmoor

Drive to the west. Wetland 1 is not shown on the NHD and does not appear to have a clear surface connection to a downstream water of the U.S. or Woodmoor Lake to the east.

Vegetation

ERO mapped one wetland (Wetland 1) dominated by broadleaf cattail (Obligate), Emory's sedge (Obligate), and redtop (Facultative Wetland) in the project area during the 2021 site visit (Figure 2a). The vegetation at DP1 met the dominance test for hydrophytic vegetation. The vegetation at DP2, DP3, DP4, and DP5 did not meet any of the hydrophytic vegetation indicators.

Soils

Soil data could not be collected during the 2021 site visit due to frozen ground. However, soils at DP1 are assumed hydric due to the prevalence of hydrophytic vegetation. Soils at DP2, DP3, DP4, and DP5 are assumed nonhydric due to the prevalence of upland vegetation.

Hydrology

Hydrology indicators observed at DP1 included saturation at the surface, geomorphic position, and the FAC-neutral test. ERO did not observe any primary hydrology indicators in the uplands (DP2 and DP3) or in the riparian habitat along Woodmoor Lake (DP4 and DP5).

Recommendations

Wetland 1 would likely be considered nonjurisdictional under current regulations because it does not appear to have a clear surface connection to a known downstream water of the U.S. Woodmoor Lake would most likely be considered jurisdictional because the lake is located along an intermittent stream and has a downstream connection to the Arkansas River, a known water of the U.S. If Wetland 1 or Woodmoor Lake are determined jurisdictional and if work is planned within Wetland 1 or Woodmoor Lake, a Section 404 permit would be required for the placement of dredged or fill material within the wetlands or OHWM. If the impacts are limited to less than 0.5 acre, the project potentially could be authorized under one or more Nationwide Permits. If no work is planned within Wetland 1 or along Woodmoor Lake or if Wetland 1 and the Woodmoor Lake are determined nonjurisdictional, no further action is necessary.

Threatened, Endangered, and Candidate Species

ERO assessed the project area for potential habitat for threatened, endangered, and candidate species under the Endangered Species Act (ESA). Federally threatened and endangered species are protected under the ESA of 1973, as amended (16 United States Code 1531 et seq.). Significant adverse effects on a federally listed species or its habitat require consultation with the Service under Section 7 or 10 of the ESA. The Service lists several threatened and endangered species with potential habitat in the project area, or that would be potentially affected by projects in the project area (Table 1).

Table 1. Federally threatened, endangered, and candidate species potentially found in the project area or potentially affected by projects in the project area.

Common Name	Scientific Name	Status*	Habitat	Habitat Present or Potential to be Affected by Project?
Mammals				
Preble's meadow jumping mouse	*Zapus hudsonius preblei*	T	Shrub riparian/wet meadows	No adequate habitat
Birds				
Eastern black rail	*Laterallus jamaicensis* ssp. *jamaicensis*	T	Brackish and freshwater marshes	No
Piping plover**	*Charadrius melodus*	T	Sandy lakeshore beaches and river sandbars	No habitat and no depletions anticipated
Whooping crane**	*Grus americana*	E	Mudflats around reservoirs and in agricultural areas	No habitat and no depletions anticipated
Fish				
Greenback cutthroat trout	*Oncorhynchus clarki stomias*	T	Clear, swift-flowing mountain streams with cover such as overhanging banks and vegetation and mountain lakes	No
Pallid sturgeon**	*Scaphirhynchus albus*	E	Large, turbid, free-flowing rivers with a strong current and gravel or sandy substrate	No habitat and no depletions anticipated
Plants				
Ute ladies'-tresses orchid	*Spiranthes diluvialis*	T	Moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes below 7,800 feet in elevation	No
Western prairie fringed orchid**	*Platanthera praeclara*	T	Moist to wet prairies and meadows	No habitat and no depletions anticipated

*T = Federally Threatened Species, E = Federally Endangered Species.
**Water depletions in the South Platte River may affect the species and/or critical habitat in downstream reaches in other counties or states.
Source: Service 2021.

The proposed project would not directly affect the eastern black rail or greenback cutthroat trout because of the lack of habitat in the project area and because all known populations of the eastern black rail occur in southeastern Colorado, outside of the project area.

The piping plover, whooping crane, pallid sturgeon, and western prairie fringed orchid are species that are affected by depletions to the Platte River system. The project area is outside of the South Platte River watershed and the project is not anticipated to have any effects on depletions to the South Platte River system.

Potential habitat for Preble's meadow jumping mouse (Preble's) and Ute ladies'-tresses orchid (ULTO) is generally more prevalent in areas across the Front Range. Because these species are more likely to be

addressed by counties and regulatory agencies such as the Corps, a more detailed discussion is provided below.

Preble's Meadow Jumping Mouse

Species Background

Preble's was listed as a threatened species on May 13, 1998. Several petitions to delist Preble's have been filed with the Service since 2011. On March 30, 2017, a petition to delist Preble's was filed; the Service found that the petition did not present substantial scientific or commercial information indicating that delisting Preble's may be warranted (83 Federal Register (FR) 16819). The Service refers to this finding as a "not substantial" petition finding (83 FR 16819). On August 10, 2018, the Service announced the initiation of a 5-year status review for Preble's (83 FR 39771). Until the completion of this 5-year finding, Preble's remains protected under the ESA. Preble's is found along the foothills of southeastern Wyoming and southward along the eastern edge of the Colorado Front Range to Colorado Springs (Clark and Stromberg 1987; Fitzgerald et al. 1994). The semiarid climate in southeastern Wyoming and eastern Colorado limits the extent of riparian corridors and, therefore, restricts Preble's range, which is associated with these corridors.

Along Colorado's Front Range, Preble's is found below 7,800 feet in elevation, generally in lowlands with medium to high moisture along permanent or intermittent streams. Preble's prefer riparian areas featuring well-developed, multistoried, and horizontal cover with an understory of grasses and forbs (Bakeman 1997; Bakeman and Deans 1997). Preble's typically inhabits areas characterized by plains riparian vegetation with relatively undisturbed grassland and a water source nearby (Armstrong et al. 2011). High-use areas for Preble's tend to be close to creeks and are associated with a high percentage of shrubs, grasses, and woody debris (Trainor et al. 2007). Previous studies have suggested that Preble's may have a wider ecological tolerance than previously thought and that the requirement for diverse vegetation and well-developed cover can be met under a variety of circumstances (Meaney et al. 1997). Radio-tracking studies conducted by the Colorado Parks and Wildlife (CPW) have documented Preble's using upland habitat adjacent to wetlands and riparian areas (Shenk and Sivert 1999). Additional research by CPW has suggested that habitat quality for Preble's can be predicted by the amount of shrub cover available at a site (White and Shenk 2000). Mountain riparian sites may be surrounded by dense forest vegetation (such as ponderosa pine in Colorado), and sites on the plains have less woody vegetation.

Potential Habitat and Effects

During the 2021 site visit, ERO assessed the project area for potential Preble's habitat. The riparian habitat along Woodmoor Lake and willows within Wetland 1 would not be considered high-quality Preble's habitat due to the lack of adequate shrub cover. The willows and plains cottonwood trees along Woodmoor Lake in the eastern part of the project area occur along Woodmoor Lake's sandy shoreline and lack a well-developed herbaceous understory that provides the forage and cover that Preble's requires. Wetland 1 is dominated by broadleaf cattail, Emory's sedge, and redtop, species not typically associated with Preble's. The nearest known Preble's capture location is approximately 0.32

mile south of the project area along Dirty Woman Creek, which receives overflow from Woodmoor Lake (Ensight Technical S 2003). Dirty Woman Creek and Woodmoor Lake are connected by a large conveyance channel that is partially overlayed with concrete. Because a continuous riparian corridor that would allow movement of Preble's between the known capture site and the project area does not exist, it is unlikely that Preble's occupies any of the project area or have the potential to move into the project area.

Recommendations

Under existing regulations, either a habitat assessment or a full presence/absence survey for Preble's is required for any habitat-disturbing activity in areas determined to be potential Preble's habitat (generally riparian habitat along streams and ditches along the Colorado Front Range). Because of the lack of adequate shrub cover, a well-developed herbaceous understory, or a continuous riparian corridor between the Preble's capture site and the project area, ERO determined that Preble's is unlikely to be present in the project area. Since the project will likely require a Section 404 permit, the Corps would be the lead federal agency required to evaluate the project for ESA compliance. ERO recommends requesting confirmation the Corps agrees with this evaluation during the 404 permitting process.

Ute Ladies'-Tresses Orchid

Species Background

ULTO is federally listed as threatened. ULTO occurs at elevations below 7,800 feet in moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes where the soil is seasonally saturated within 18 inches of the surface (Colorado Natural Heritage Program 2014; Service 1992a). This species has also been found along irrigation canals, irrigated meadows, gravel pits, and other human-modified wetlands (Service 2021). Once thought to be fairly common in low-elevation riparian areas in the interior western United States, ULTO is now rare (Service 1992a). The species' known range is from Nevada to British Columbia. The largest known populations occur in Utah, followed by Colorado (NatureServe 2021).

In Colorado, the Service requires surveys in suitable habitat within the 100-year floodplain segments of the South Platte River, Fountain Creek, and Yampa River and their perennial tributaries, or in any area with suitable habitat in Boulder and Jefferson Counties. Since the protocols were submitted in 1992, ULTO has been found along the Roaring Fork River. Therefore, surveys should be conducted within suitable habitat in the floodplain of the Roaring Fork River and its tributaries. ULTO does not bloom until late July to early September (depending on the year) and timing of surveys must be synchronized with blooming (Service 1992b).

Potential Habitat and Effects

During the 2021 site visit, ERO assessed the project area for potential ULTO habitat. Because a perennial tributary to Fountain Creek does not occur in the project area, because Woodmoor Lake is fed by an

intermittent stream, and the project area is in El Paso County, the project area does not fall within the Service's guidelines for ULTO surveys.

Recommendations

Because no suitable habitat occurs in the project area, no action is necessary regarding ULTO. The project will require a 404 permit; therefore, the Corps is the lead agency for ESA compliance and ERO recommends providing a copy of this report and the habitat assessment to the Corps to request confirmation that the project area does not contain habitat for any federally listed threatened or endangered species.

Other Species of Concern

Raptors and Migratory Birds

Migratory birds, as well as their eggs and nests, are protected under the Migratory Bird Treaty Act (MBTA). The MBTA does not contain any prohibition that applies to the destruction of a bird nest alone (without birds or eggs), provided that no possession occurs during the destruction. While destruction of a nest by itself is not prohibited under the MBTA, nest destruction that results in the unpermitted take of migratory birds or their eggs is illegal and fully prosecutable under the MBTA (Service 2003). The regulatory definition of a take means to pursue, hunt, shoot, wound, kill, trap, capture, or collect; or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect (50 CFR 10.12).

Under the MBTA, the Service may issue nest depredation permits, which allow a permittee to remove an active nest. The Service, however, issues few permits and only under specific circumstances, usually related to human health and safety. Obtaining a nest depredation permit is unlikely and involves a process that takes, at a minimum, 8 to 12 weeks. The best way to avoid a violation of the MBTA is to remove vegetation outside of the active breeding season, which typically falls between March and August, depending on the species. MBTA enforcement actions are typically the result of a concerned member of the community reporting a violation.

Potential Habitat and Effects

A wide variety of bird species use different habitat types in the project area for shelter, breeding, wintering, and foraging at various times during the year. Wetlands, shrubs, trees, and upland grasslands in the project area are potential nesting habitat for migratory birds. ERO did not observe any active or inactive migratory bird nests, including potential raptor nests, in or near the project area during the 2021 site visit.

Recommendations

Although no nests were observed during the 2021 site visit, ground-nesting bird and arboreal nests are difficult to detect and may be present in the grasslands and trees in the project area. To avoid destruction of potential migratory bird nests, vegetation removal should be conducted outside of the April 1 through August 31 breeding season.

Both the Denver Field Office of the Service (2009) and the Colorado Department of Transportation (2011) have identified the primary nesting season for migratory birds in eastern Colorado as occurring from April 1 through August 31. However, a few species such as bald eagles, great horned owls, and red-tailed hawks can nest as early as December (eagles) or late February (owls and red-tailed hawks). Because of variability in the breeding seasons, ERO recommends that a nest survey be conducted within one week prior to construction to determine if any active nests are present in the project area so that they can be avoided. Additional nest surveys during the nesting season may also be warranted to identify active nesting species that may present additional development timing restrictions (e.g., eagles or red-tailed hawks).

If active nests are identified in or near the project area, activities that would directly affect the nests should be restricted. Habitat-disturbing activities (e.g., tree removal, grading, scraping, and grubbing) should be conducted in the nonbreeding season to avoid disturbing active nests, or to avoid a "take" of the migratory bird nests within the project area. Nests can be removed during the September 1 through March 31 nonbreeding season to preclude future nesting and avoid violations of the MBTA. There is no process for removing nests during the nonbreeding season; however, nests may not be collected under MBTA regulations. If the construction schedule does not allow vegetation removal outside of the breeding season, a nest survey should be conducted immediately prior to vegetation removal to determine if the nests are active and by which species. If active nests are found, any work that would destroy the nests or cause the birds to abandon young in the nest could not be conducted until the birds have vacated the nests.

Other Wildlife

No prairie dog colonies were observed in the project area during the 2021 site visit. The project area and neighboring undeveloped area provide habitat for a variety of small mammals such as cottontail rabbits (*Sylvilagus* sp.), deer mice (*Peromyscus* sp.), voles (*Microtus* sp.), and pocket gophers (*Geomyidae* sp.). Grassland habitat likely provides breeding habitat for numerous ground-nesting prairie bird species, and the trees in the project area likely provide nesting habitat for birds.

The project area occurs in the overall ranges of Albert's squirrel (*Sciurus aberti*), black bear (*Ursus americanus*), black-tailed prairie dog (*Cynomys ludovicianus*), dwarf shrew (*Sorex nanus*), elk (*Cervus canadensis*), mountain lion (*Puma concolor*), mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), white-tailed jackrabbit (*Lepus townsendii*), wild turkey (*Meleagris gallopavo*), bullsnake (*Pituophis catenifer sayi*), Hernandez's short-horned lizard (*Phrynosoma hernandesi*), plateau fence lizard (*Sceloporus occidentalis*), milksnake (*Lampropeltis triangulum*), North American racer (*Coluber constrictor*), painted turtle (*Chrysemys picta*), plains garter snake (*Thamnophis radix*), prairie lizard (*Sceloporus undulates*), prairie rattlesnake (*Crotalus viridis*), six-lined racerunner (*Aspidoscelis sexlineata*), smooth green snake (*Opheodrys vernalis*), and terrestrial gartersnake (*Thamnophis elegans*), and is within the Canada goose (*Branta canadensis*) winter range (Natural Diversity Information Source (NDIS) 2016). During the 2021 site visit, none of these species were observed in the project area. No designated wildlife corridors were mapped in the project area (NDIS 2016).

As with any human development, wildlife species sensitive to human disturbance are likely to decline in abundance or abandon the area, while other wildlife species adapted to development are likely to increase in abundance. Species likely to increase include red fox (*Vulpes vulpes*), raccoon (*Procyon lotor*), and great horned owl (*Bubo virginianus*). Overall, surrounding and continuing development contributes to a decline in the number and diversity of wildlife species nearby and to a change in species composition to favor species that adapt better to human disturbance.

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Photo 1 - Overview of uplands within the Pipeline Alignment in the western part of the project area. View is to the south.

Photo 2 - Overview of uplands within the Pipeline Alignment in the western part of the project area. View is to the south.

Photo 3 - Overview of uplands within the Pipeline Alignment in the southwestern part of the project area. View is to the southeast.

Photo 4 - Overview of uplands within the Pipeline Alignment in the southwestern part of the project area. View is to the southwest.

Photo 5 - Overview of riparian habitat in the eastern part of the project area. View is to the northwest.

Photo 6 - Overview of riparian habitat in the eastern part of the project area. View is to the northeast.

Photo 7 - Overview of wetland vegetation in Wetland 1 in the western part of the project area. View is to the northwest.

Photo 8 - Overview of upland vegetation and ponderosa pine trees in the western part of the project area. View is to the northwest.

Appendix B Routine Wetland Determination Forms

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Woodmoor Lake Pump Station No. 2 and Pipeline City/County: El Paso Sampling Date: 2/22/2021

Applicant/Owner: JVA Consulting Engineering, Inc. State: CO Sampling Point: DP1

Investigator(s): A. Hennage and A. Wistrom Section, Township, Range: SE 1/4 SW 1/4 Section 11, T11S, R67W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 4%

Subregion (LRR): E Lat: 39.101349 Long: 104.859344 Datum: NAD 83

Soil Map Unit Name: Pring coarse sandy loam, 3 to 8 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ 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 _____	**Is the Sampled Area within a Wetland?** **Yes ✓ No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Stormwater detention basin.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 X 15)			
1. Salix exigua	20	Y	FACW
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 5 x 5)			
1. Typha latifolia	35	Y	OBL
2. Carex emoryi	35	Y	OBL
3. Agrostis gigantea	20	Y	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ✓ No _____**

Remarks:

SOIL

Sampling Point: DP1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]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:

Could not dig due to frozen ground. Assume hydric soil due to prevalence of hydrophytic vegetation.No indicators.

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)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B)**
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Stunted or Stressed Plants (D1) (**LRR A**)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B)**
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Saturation Visible on Aerial Imagery (C9)
✓ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
✓ FAC-Neutral Test (D5)
___ Raised Ant Mounds (D6) (**LRR A**)
___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 0

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:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Woodmoor Lake Pump Station No. 2 and Pipeline City/County: El Paso Sampling Date: 2/22/2021

Applicant/Owner: JVA Consulting Engineering, Inc. State: CO Sampling Point: DP2

Investigator(s): A. Hennage and A. Wistrom Section, Township, Range: SE 1/4 SW 1/4 Section 11, T11S, R67W

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 4%

Subregion (LRR): E Lat: 39.101374 Long: 104.859325 Datum: NAD 83

Soil Map Unit Name: Pring coarse sandy loam, 3 to 8 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ 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 ✓	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 X 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus ponderosa	30	Y	UPL
2.			
3.			
4.			
	30 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 x 5)			
1. Heterotheca villosa	5	Y	UPL
2. Centaurea diffusa	5	Y	UPL
3. Bromus inermis	10	Y	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 80

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** ✓

Remarks:

SOIL

Sampling Point: DP2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]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:

Could not dig due to frozen ground. Assume nonhydric soils due to prevalence of upland vegetation.

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)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B)**
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Stunted or Stressed Plants (D1) (**LRR A**)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B)**
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)
___ Raised Ant Mounds (D6) (**LRR A**)
___ Frost-Heave Hummocks (D7)

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:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Woodmoor Lake Pump Station No. 2 and Pipeline City/County: El Paso Sampling Date: 2/22/2021

Applicant/Owner: JVA Consulting Engineering, Inc. State: CO Sampling Point: DP3

Investigator(s): A. Hennage and A. Wistrom Section, Township, Range: SE 1/4 SW 1/4 Section 11, T11S, R67W

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 4%

Subregion (LRR): E Lat: 39.101063 Long: 104.858723 Datum: NAD 83

Soil Map Unit Name: Pring coarse sandy loam, 3 to 8 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ 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 ✓	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 X 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus ponderosa	20	Y	UPL
2.			
3.			
4.			
	20 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 x 15)			
1. Salix exigua	15	Y	FACW
2.			
3.			
4.			
5.			
	15 = Total Cover		
Herb Stratum (Plot size: 5 x 5)			
1. Poa pratensis	30	Y	FACU
2. Heterotheca villosa	10	Y	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 60

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** ✓

Remarks:

SOIL

Sampling Point: DP3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]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:

Could not dig due to frozen ground. Assume nonhydric soils due to prevalence of upland vegetation.

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)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B)**
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Stunted or Stressed Plants (D1) (**LRR A**)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B)**
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)
___ Raised Ant Mounds (D6) (**LRR A**)
___ Frost-Heave Hummocks (D7)

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:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Woodmoor Lake Pump Station No. 2 and Pipeline City/County: El Paso Sampling Date: 2/22/2021

Applicant/Owner: JVA Consulting Engineering, Inc. State: CO Sampling Point: DP4

Investigator(s): A. Hennage and A. Wistrom Section, Township, Range: NW 1/4 NE 1/4 Section 14, T11S, R67W

Landform (hillslope, terrace, etc.): Hillslope and shoreline Local relief (concave, convex, none): None Slope (%): 7%

Subregion (LRR): E Lat: 39.097727 Long: 104.856649 Datum: NAD 83

Soil Map Unit Name: Water NWI classification: L1UBHh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ 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 ✓	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Shoreline of Woodmoor Lake. Snow covered.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 x 15)			
1. Salix exigua	10	Y	FACW
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 5 x 5)			
1. Centaurea diffusa	10	Y	UPL
2. Heterotheca villosa	10	Y	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 80

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or 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	0	x 1 = 0
FACW species	10	x 2 = 20
FAC species	0	x 3 = 0
FACU species	0	x 4 = 0
UPL species	20	x 5 = 100
Column Totals:	30 (A)	120 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** ✓

Remarks:

SOIL

Sampling Point: DP4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]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:

Could not dig due to frozen ground. Assume nonhydric soils due to prevalence of upland vegetation and location on hill.

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)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B)**
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Stunted or Stressed Plants (D1) (**LRR A**)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B)**
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)
___ Raised Ant Mounds (D6) (**LRR A**)
___ Frost-Heave Hummocks (D7)

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:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Woodmoor Lake Pump Station No. 2 and Pipeline City/County: El Paso Sampling Date: 2/22/2021

Applicant/Owner: JVA Consulting Engineering, Inc. State: CO Sampling Point: DP5

Investigator(s): A. Hennage and A. Wistrom Section, Township, Range: NW 1/4 NE 1/4 Section 14, T11S, R67W

Landform (hillslope, terrace, etc.): Hillslope and shoreline Local relief (concave, convex, none): None Slope (%): 4%

Subregion (LRR): E Lat: 39.099587 Long: 104.854795 Datum: NAD 83

Soil Map Unit Name: Water NWI classification: L1UBHh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ 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 ✓	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Shoreline of Woodmoor Lake. Snow covered.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 X 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus ponderosa	40	Y	UPL
2.			
3.			
4.			
	40 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 x 15)			
1. Salix exigua	30	Y	FACW
2.			
3.			
4.			
5.			
	30 = Total Cover		
Herb Stratum (Plot size: 5 x 5)			
1. Centaurea diffusa	10	Y	UPL
2. Thlaspi arvense	10	Y	FACU
3. Bromus inermis	15	Y	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	35 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 65

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	50	x 4 =	200
UPL species	25	x 5 =	125
Column Totals:	105 (A)		385 (B)

Prevalence Index = B/A = 3.6

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** ✓

Remarks:

SOIL

Sampling Point: DP5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]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:

Could not dig due to frozen ground. Assume nonhydric soils due to prevalence of upland vegetation. Aerial shows sandy shoreline.

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)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B)**
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Stunted or Stressed Plants (D1) (**LRR A**)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B)**
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)
___ Raised Ant Mounds (D6) (**LRR A**)
___ Frost-Heave Hummocks (D7)

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: