Natural Features and Wetland Report for the Waterside Project

El Paso County, Colorado

May 23, 2022

Prepared for:

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Project Number: 2021-12-1

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AMSL	above mean sea level
Applicant	Lake Woodmoor Development, Inc.
BoCC	Board of County Commissioners
CCRs	Codes, Covenants and Restrictions
CDA	Colorado Department of Agriculture
CNHP	Colorado Natural Heritage Program
COGCC	Colorado Oil and Gas Conservation Commission
CPW	Colorado Parks and Wildlife
CWA	Clean Water Act
CSFS	Colorado State Forest Service
Ecos or ecos	Ecosystem Services, LLC
FEMA	Federal Emergency Management Agency
IPaC	USFWS Information for Planning and Consultation database
JD	Jurisdictional under the Clean Water Act
Lake	Woodmoor Lake
Non-JD	Non- jurisdictional under the Clean Water Act
PMJM	Preble's meadow jumping mouse
Project	Waterside Project
Report	Natural Features and Wetland Report
Site	Waterside site
NRCS	Natural Resource Conservation Service
NTCHS	National Technical Committee for Hydric Soils
NWI	National Wetland Inventory
PCA	CNHP Potential Conservation Area
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WOTUS	Waters of the United States, including wetland habitat

1.0 INTRODUCTION

Ecosystem Services, LLC (Ecos or ecos) was retained by Lake Woodmoor Development, Inc. (LWD) (Applicant) to perform a natural resource assessment for the proposed Waterside project (Project) and to prepare this Natural Features and Wetland Report (Report).

The contact information for the Applicant and ecos representatives for this Report is provided below:

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1.1 Purpose

The purpose of this Report is to identify and document the natural resources, ecological characteristics and existing conditions of the Project site (Site); identify potential ecological impacts associated with Site development; and provide current regulatory guidance related to potential development-related impacts to natural resources. The specific resources and issues of concern addressed in this Report are in conformance with the El Paso County requirements (refer to Section 2.0), and include:

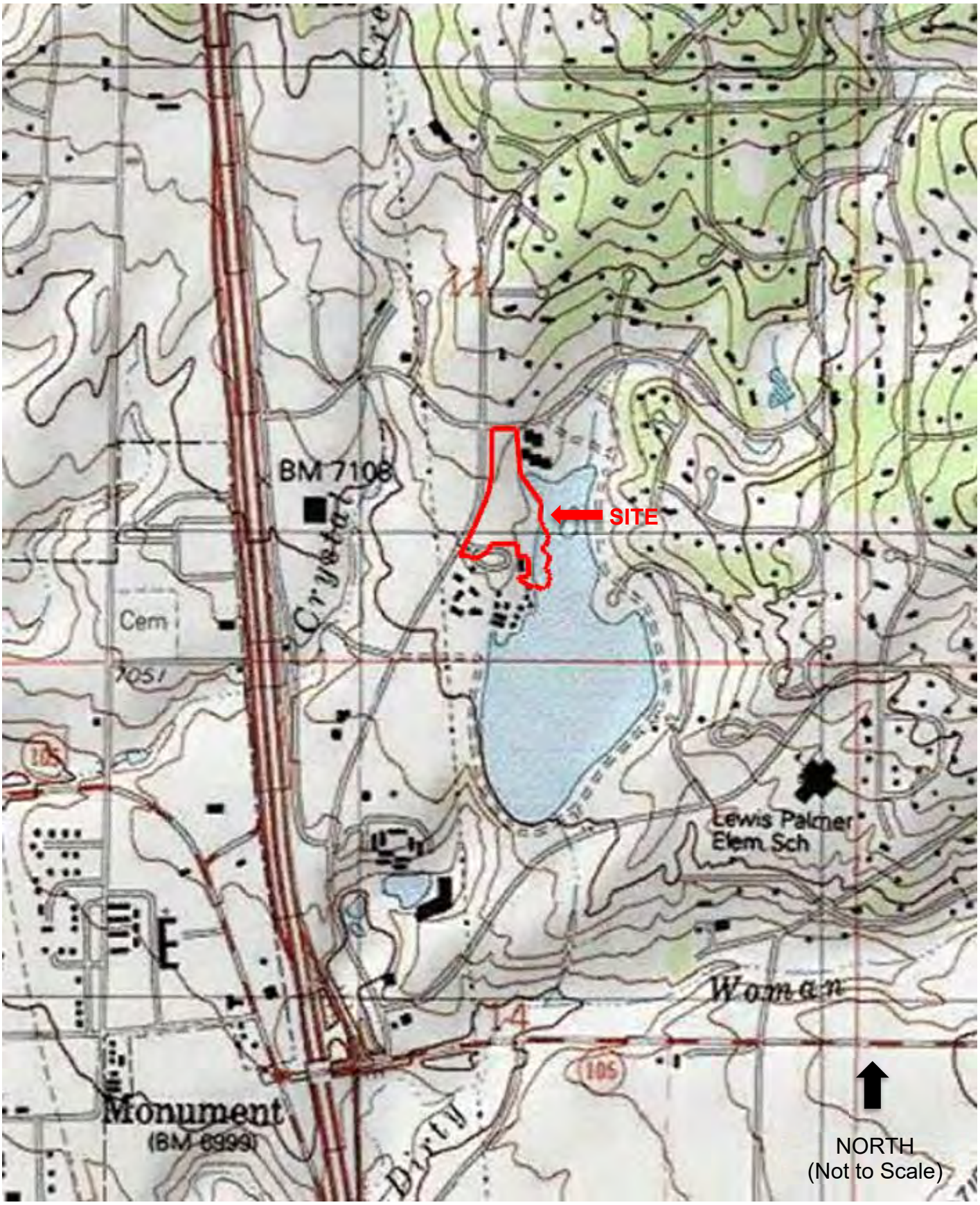
- Vegetation;
- Noxious Weeds;
- Waterbodies and Wetlands;
- Wildlife;
- Federal Listed, Candidate, Threatened and Endangered Species;
- Raptors and Migratory Birds and
- Wildfire Hazards.

1.2 Site Location and Project Description

The Site is located along the northwest shore of Woodmoor Lake in the Woodmoor area of Monument in northern El Paso County. It is bounded by Woodmoor Drive to the west, Deer Creek Road to the north, the Woodmoor Barn Community to the south, Woodmoor Lake to the southeast and the Waterfront Townhomes to the northeast. There are no existing structures or developed roads on the Site. A dirt road is present in the northwest corner of the Site and runs diagonally in a southwest direction from Deer Creek Road to Woodmoor Drive.

Geographically, the Site is located within the southwest ¼ of Section 11 of Township 11 South, Range 67 West in El Paso County, Colorado. The center of the Site is situated at approximately Latitude 39.103733 ° north, Longitude -104. 858056 ° west. Refer to Figure 1, USGS Site Location Map.

The Applicant proposes to develop the Site as a planned community of new townhome units, trails, and open space that recognize and respect the distinctive character of the existing community and the adjacent ecosystem of Woodmoor Lake. Please refer to the development application for details and plans that describe the proposed Project in detail. The Concept Site Plan, used as a basis for the discussion in this document is provided in Appendix F.



USGS 7.5 min. Quad: Monument
Section 11, Township 11 South, Range 67 West
Latitude: 39.103733 °N, Longitude: -104. 858056 ° W

Figure 1 USGS SITE LOCATION MAP

2.0 METHODOLOGY

Ecos performed an office-level assessment in which available databases, resources, literature and field guides on local flora and fauna, and aerial imagery were reviewed to gather background information on the environmental setting of the Site. The resources reviewed during the office assessment include but are not limited to the following:

- Biological Resources of El Paso County (El Paso County Community Services Dept., 2013)
- Colorado Department of Agriculture (CDA) Noxious Weed List;
- Colorado Natural Heritage Program (CNHP) database;
- Colorado Oil and Gas Conservation Commission (COGCC) GIS Online;
- Colorado Parks and Wildlife (CPW) database;
- Colorado State Forest Service Colorado Forest Atlas;
- Community Wildfire Protection Plan for Unincorporated El Paso County;
- El Paso County Master Plan;
- Federal Emergency Management Agency (FEMA) database;
- Google Earth current and historic aerial imagery;
- Survey of Critical Biological Resources, El Paso County, Colorado;
- Survey of Critical Wetlands and Riparian Areas in EI Paso and Pueblo Counties, Colorado (CNHP, 2001b);
- U.S. Army Corps of Engineers (USACE) 1987 Corps of Engineers Wetlands Delineation Manual;
- USACE 2010 Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Great Plains Region;
- U.S. Department of Agriculture (USDA) PLANTS Database;
- U.S. Fish and Wildlife Service (USFWS) Region 6 database;
- USFWS National Wetland Inventory (NWI);
- USFWS Information for Planning and Consultation (IPaC) database search; and
- U.S. Geological Survey (USGS) database.

Ecos also reviewed pertinent, site-specific background data provided by the Applicant, including topographic base mapping, site development layout/concept plans, and other data pertinent to the assessment.

Ecos reviewed, and incorporated the requirements of the following El Paso County regulations into this Report:

1) El Paso County Land Development Code Chapter 5 - Section 5.3, Standards for Review, Approval, and Administration of Uses,
2) El Paso County Land Development Code, Chapter 6 - General Development Standards, 6.3 – Environmental Standards:
    a. Section 6.3.3 – Fire Protection and Wildfire Mitigation;
    b. Section 6.3.7 - Noxious Weeds;
    c. Section 6.3.8 – Wetlands; and
    d. Section 6.3.9 – Wildlife.
3) El Paso County Land Development Code, Chapter 8 - Subdivision Design, Improvements and Dedications, 8.4 – Design Considerations and Standards:
    a. Section 8.4.2 Environmental Considerations:
        i. (A)(4) – Threatened and Endangered Species Compliance; and
        ii. (B)(1) – Flood Hazard Area Requirements

Following the collection and review of existing data and background information, ecos conducted a field assessment of the Site to identify any potential impacts to natural resources associated with the Project. Field reconnaissance concentrated on identification of wetland habitat, waters of the U.S., wildlife habitat (including habitat suitable to support threatened and endangered wildlife) significant topographic features, noxious weeds and vegetation. Wetland habitat and waters of the U.S. boundaries, wildlife habitat, major vegetation communities, and significant weed stands were sketched on topographic and aerial base maps and/or located using a hand-held Global Positioning System as deemed necessary. Representative photographs were taken to assist in describing and documenting Site conditions and potential ecological impacts.

The office and onsite assessment data, the pertinent El Paso County regulations outlined above, and Natural Resource Assessment and Wetland report examples used in previous County land development review submittals (provided by El Paso County) were used in the preparation of the Report.

3.0 ENVIRONMENTAL SETTING

A review of the El Paso County 2000 Tri-Lakes Comprehensive Plan (El Paso County, 1999) revealed that the Site is within the Woodmoor Planning Area (Sub-Area #7). The Site contains no Colorado Natural Heritage Conservation Areas or Potential Conservation Areas according to the CNHP (CNHP, 2021), no Preservation Areas designated in the El Paso County 2000 Tri-Lakes Comprehensive Plan (El Paso County, 1999), and no Critical Habitat, Wildlife Refuges or Hatcheries according to the USFWS IPaC Trust Resources Report (USFWS, 2021).

The Site is located in the UESPA Level III Ecoregion: 26 Southwestern Tablelands, Level IV Ecoregion: 26i Pine-Oak Woodlands (Chapman et al, 2006), which is a dissected plain with dense oakbrush and deciduous oak woodlands combined with ponderosa pine woodlands. The southern portion is known locally as the Black Forest. Although woodlands dominate, the region is a mosaic of woodlands and grasslands. It is somewhat more dissected than the surrounding Foothill Grasslands (26j) ecoregion. The Pine-Oak Woodlands may be an outlier of the ponderosa pine woodlands found in the mid-elevation forests of the Southern Rockies (21) to the west. Soils are formed from weathered sandstone and shale with some outwash on uplands. Land use is woodland, wildlife habitat, and some rangeland. Areas of the region are rapidly urbanizing.

The CNHP Survey of Critical Biological Resources, El Paso County, Colorado (CNHP, 2001a), Ecoregions of El Paso County figure illustrates that the Site is situated within the Central Shortgrass Prairie ecoregion and states that this ecoregion is “characterized by rolling plains and tablelands dissected by streams, canyons, badlands, and buttes and dominated by shortgrass, midgrass, and sand-sage prairie. Small patches of remnant tallgrass prairie occur along the base of the foothills and in other areas where the soils and moisture regime are appropriate.”

3.1 Topography and Drainage

The Site is generally characterized as sloping from north to southeast, as the east side of the Site drops in topography steeply toward the edge of Woodmoor Lake. Site topography ranges from a high elevation of 7152 feet above mean sea level (AMSL) in the northeastern corner to a low elevation of 7096 feet in the southeast corner.

Refer to Figure 1, USGS Site Location Map and Figure 2, Aerial Photo Map.

3.2 Soils

Ecos utilized the U.S. Department of Agriculture, Natural Resource Conservation Service Web Soil Survey (USDA, NRCS, 2021) to determine the nature and composition of the underlying soil type and to determine if hydric soils are present within the Site, as this data assists in informing the presence/absence of potential wetland habitat regulated under the Clean Water Act (CWA). The soils data were also utilized to supplement the field observations of vegetation, as the USDA provides correlation of native vegetation species by soil type. Please refer to Appendix A, USDA Soil Survey for additional information.

Pring coarse sandy loam, 3 to 8 percent slopes (Map Unit #71) is the soil type that underlies 70.5% of the Site is found on hills and formed in parent materials weathered residually or locally transported from the arkose beds of the Dawson and Arapahoe formations (Arkosic alluvium derived from sedimentary rock). This soil type is a deep, well-drained soil in a low run-off class, is not frequently flooded and has a low available water capacity (about 6.0 inches). The depth to water table is more than 80 inches. This soil type is not listed as a Hydric Soil by the USDA; however, it may include minor components of the Pleasant soil type that is found in depressions and is listed as Hydric. The USDA soil survey does not provide a description of the vegetation that is typically associated with this soil type.

Tomah-Crowfoot loamy sands, 3 to 8 percent slopes (Map Unit #92) is the soil type that underlies 24.5% of the is found on hills and alluvial fans and formed in parent material comprised of alluvium derived from arkose and/or residuum weathered from arkose.

> The Tomah component of this soil type is a deep, well-drained soil in a medium run-off class, is not frequently flooded and has a low available water capacity (about 4.6 inches). The depth to water table is more than 80 inches. This soil type is not listed as a Hydric Soil by the USDA; however, it may include minor components of the Pleasant soil type that is found in depressions and is listed as Hydric. The USDA soil survey does not provide a description of the vegetation that is typically associated with this soil type.
>
> The Crowfoot component of this soil type is a deep, well-drained soil in a medium run-off class, is not frequently flooded and has a low available water capacity (about 4.7 inches). The depth to water table is more than 80 inches. This soil type is not listed as a Hydric Soil by the USDA; however, it may include minor components of the Pleasant soil type that is found in depressions and is listed as Hydric. The USDA soil survey does not provide a description of the vegetation that is typically associated with this soil type.

Water (Map Unit #111) associated with the high-water level of Woodmoor Lake underlies 5.0% of the Site.

None of the soil types on the Site are listed by the NRCS as a hydric soil. Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS, 1994) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field during wetland delineations. These visible properties are indicators of hydric soils. The indicators used to make onsite wetland determinations of hydric soils are specified in *Field Indicators of Hydric Soils in the United States* (USDA, NRCS, 2010).

Source: Google Earth, 10/6/2019

Figure 2 AERIAL PHOTO MAP

3.3 Vegetation

The Site is located in a transitional area between the ponderosa pine (*Pinus ponderosa*) woodlands of the Black Forest to the northeast and more grassland dominated communities in lower areas to the west along I-25. The Black Forest region includes relict eastern American prairie and woodland plant communities with species otherwise unknown in Colorado except for some protected canyons in the outer Front Range (Weber and Wittman, 2012). This hilly region supports pine- Gambel oak (*Quercus gambelii*) woodlands interspersed with native grasslands. Well-developed riparian communities occur along drainages that support plains cottonwood (*Populus deltoides*), narrowleaf cottonwood (*Populus angustifolia*), crack willow (*Salix fragilis*) and sandbar willow (*Salix exigua*), sedges, rushes and grasses. The area has historically been used for rangeland; however, residential development is increasing.

Most of the Site has been disturbed to varying degrees, resulting in some cover of non-native species in most areas. The northeastern portion is vegetated with mowed, weedy, disturbed grassland. Farther east and south, vegetation transitions to native mid-grass prairie with some scattered pines and low weed cover. There are pine-oak woodlands and patches of non-native trees in the southern third of the Site and along the northeastern edge. There is a narrow strip of riparian vegetation along the steep shoreline of Woodmoor Lake.

Refer to Figure 3, Vegetation Community Map and Appendix D for a photo location map and representative photographs of Site conditions.

3.3.1 Disturbed Grassland

The northwestern third of the Site is comprised of mowed, weedy, grassland where non-native species have higher cover than native species (Figure 3). This area appears to have been cleared of native vegetation, possibly graded, and reseeded in the past. Based on aerial photos this happened prior to 1999. In the northwest corner, there is a smaller area of more recent disturbance/re-vegetation that appears to have been to repair a dirt track created by drivers cutting the corner between Woodmoor Drive and Deer Creek Road. The dominant species are non-native smooth brome (*Bromus inermis*) and native blue grama (*Bouteloua gracilis*). Native herbaceous cover is low with the most common species being hairy goldenaster (*Heterotheca villosa*) and fringed sage (*Artemisia frigida*). Non-native herbaceous plants (i.e., weeds) include kochia (*Bassia scoparia*), prickly lettuce (*Sonchus arvensis*) and alyssum (*Alyssum simplex*). Three plants on the Colorado noxious weed list were observed, diffuse knapweed (*Centaurea diffusa*), hybrid knapweed (C. x psammogena), and common mullein (*Verbascum thapsus*). Non-native herbaceous cover is generally moderate (~10%), but there are some patches with higher cover of knapweed and kochia. All noxious weed species observed onsite are discussed in more detail in the relevant section below.

3.3.2 Mid-Grass Prairie

Mid-grass prairie occurs along the eastern and southern edges of the disturbed grassland (Figure 3). Native cover and diversity are higher here due to a decrease in smooth brome, an increase in blue grama, the presence of green needlegrass (*Stipa viridula*), and an increase in native herbaceous species. The non-native species observed in the disturbed grasslands are present, but with much lower cover. The most common non-native species are smooth brome and diffuse knapweed. Average non-native cover is less than 10 percent, ranging from zero to 30 percent. There are a few scattered ponderosa pines.

3.3.3 Pine-Oak Woodland

The southern third and the sloped eastern edge of the Site are vegetated with pine-oak woodland interspersed with mid-grass prairie openings (Figure 3). The ponderosa pines and Gambel oaks are mostly growing in separate patches with dense smooth brome (non-native) growing under the trees. The oak thickets provide acorns and good cover for wildlife. In the southwest corner of the Site, there is a stand of ponderosa interspersed with native grasses including blue grama and sand dropseed (*Sporobolus cryptandrus*). This is one of the highest quality areas of the Site due to the lack of weeds.

3.3.4 Riparian

Contrary to CHNP Riparian Area Map (Figure 5), there is a narrow section of riparian habitat along the open water edge of Woodmoor Lake. Large tree cover is approximately 30% consisting of plains cottonwoods (*Populus deltoides*) and peachleaf willow (*Salix amygdaloides*), and the aforementioned non-native Siberian elms higher up the slope from the lake edge. Riparian shrub habitat is co-dominant with sandbar willow (Salix exigua) (30% cover) with an understory of sandy bare ground (40% cover). Thousands of plains cottonwood seedlings are colonizing the dewatered, exposed lakebed and will be drowned out once the lake refills.

3.3.5 Non-Native Trees

Two species of non-native trees are common (Figure 3). Black locust (*Robinia pseudoacacia*) are growing in two dense thickets, one surrounded by grassland in the center of the Site and one growing along the wooded eastern edge of the Site (Figure 3). There are some large Siberian elms (*Ulmus pumila*) trees farther south. This includes a stand of trees adjacent to the existing parking lot and approximately five to ten more growing above the edge of Woodmoor Lake and partially overlapping the native riparian vegetation.

3.3.6 Disturbed Area

A disturbed area is mapped on the southern edge of the Site just off the parking lot of the Woodmoor Barn Community Center (Figure 3). Past and current aerial imagery shows this area being used frequently as an access route to the back of the community center and soil stockpile area. Current excavation work and an adjacent area where excavation or dumping is visible on past aerials.

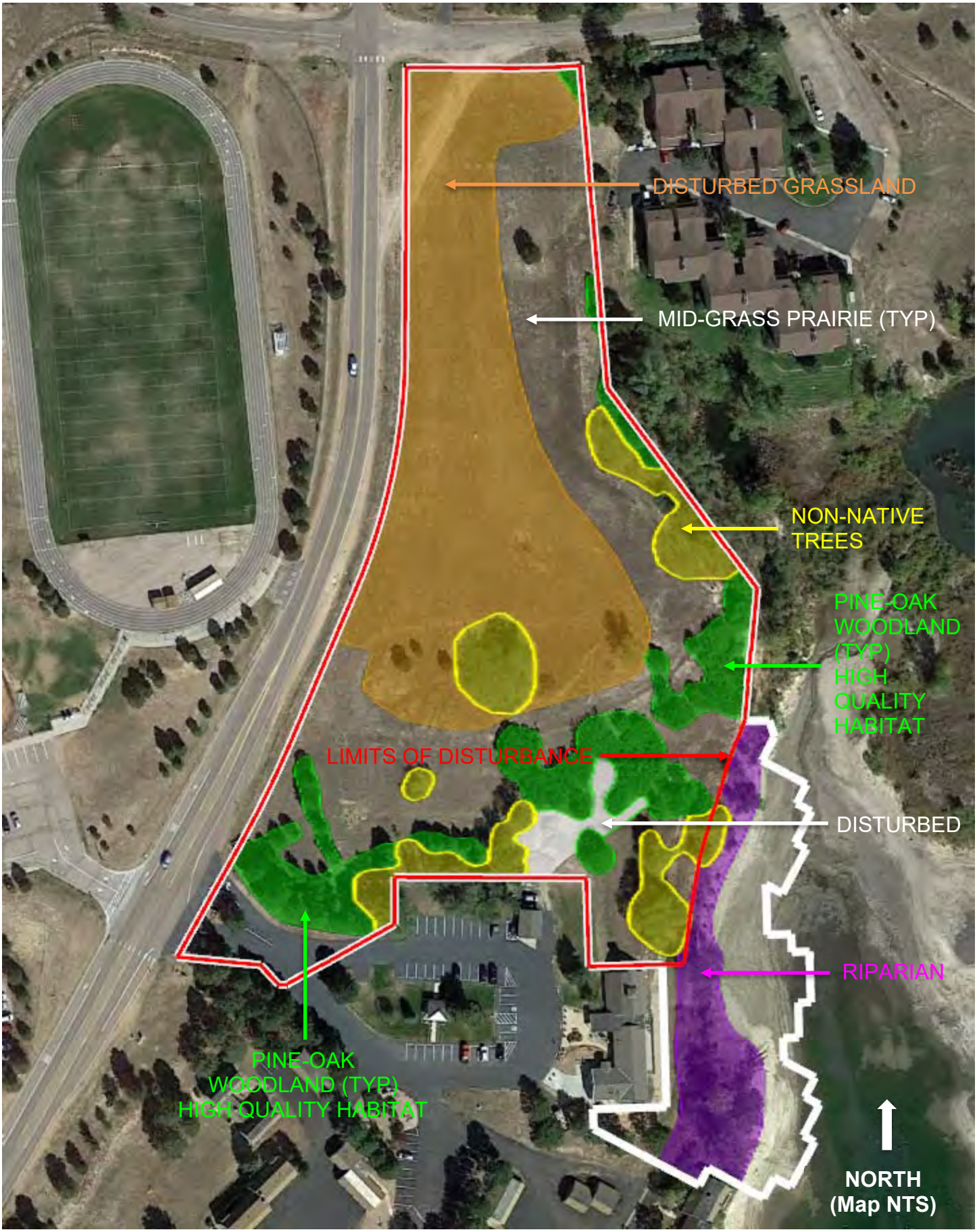


Figure 3 VEGETATION COMMUNITY MAP

3.4 Wetland Habitat and Waters of the U.S.

The stated purpose of the 2018 El Paso County Development Standards for "Wetlands" is: "…to ensure wetlands are identified during the development process, and that appropriate actions are taken to minimize negative impacts to wetlands and avoid the removal of wetlands where practicable or as may be required by the U.S. Army Corps of Engineers (USACE). "

3.4.1 Methodology

Ecos utilized the Colorado Wetland Inventory Mapping Tool (CNHP, 2021); historic and current Google Earth aerial photography; USGS 7.5-minute topographic mapping to pre-screen the Site for potential wetland habitat and waters of the U.S. and then prepared a preliminary, desktop boundary delineation by interpreting aerial imagery for differences in vegetation color signatures. Please refer to Figure 4, National Wetland Inventory Map and Figure 5, CNHP Riparian Area Map.

The desktop delineation data yielded no wetland habitat; however, the edge of Woodmoor Lake up to its Ordinary High Water mark could be considered jurisdictional waters of the U.S. A jurisdictional delineation was conducted on October 13, 2021 to determine the jurisdictional boundaries of wetlands and other waters of the United States (WOTUS) using the USACE, wetland delineation methodology to document the 3 field indicators of wetland habitat (i.e., a predominance of hydrophytic vegetation, hydric soils and sustaining wetland hydrology) and field indicators of ordinary high watermark. This methodology is explained in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and supplemented by the Regional Supplement to the *Corps of Engineers Wetlands Delineation Manual: Great Plains Region (Version 2)* (USACE, 2010). Upon completion of the jurisdictional boundary delineation the wetland/waters survey data obtained via GPS was then corrected and refined in the office using the most current Google Earth imagery available.

This process revealed the presence of one feature with the potential to be WOTUS, Woodmoor Lake. NWI mapping classifies it as a permanently flooded, diked/impounded, limnetic (open water), lacustrine (lake) with an unconsolidated bottom (L1UBHh). Limnetic features often have a littoral zone around the edge were hydrophytic vegetation grows in or just above shallow water such as palustrine emergent (PEM) and/or palustrine shrub-scrub (PSS) vegetation. Refer to Figure 4 NWI Map and Figure 6, Potential Jurisdictional Wetlands and Waters Map which are described further in the Field Assessment Findings below, including ecos' assessment as to it potential jurisdictional status.

3.4.2 Field Assessment Findings

The results of the onsite jurisdictional wetland delineation are summarized below, with an explanation of the field indicators of wetland habitat/waters that were observed, and ecos' opinion as to jurisdictional or non- jurisdictional status of each feature under Section 404 of the Clean Water Act. Potential Jurisdictional (JD) and non-jurisdictional (Non-JD) features are illustrated on Figure 6 as well as a proposed Limits of Disturbance (LOD). Wetland Determination Forms with detailed and specific data documenting the jurisdictional delineation performed by ecos will be provided if there are proposed impacts to WOTUS and a CWA Section 404 Permit is required.

Jurisdictional WOTUS, including Wetland Habitat

The NWI classification of Woodmoor Lake is consistent with field observations although it was partially dewatered and under repair at the time of the wetland delineation. An ordinary high

water mark (OHWM), a clear and distinct shoreline was observed at the base of persistent vegetation. A narrow strip of palustrine shrub-scrub wetland habitat (PSS) occurs above the OHWM that meets all the criteria/indicators needed to be deemed a wetland. Hydrophytic vegetation is present. Species observed include Plains cottonwood, peachleaf willow, and sandbar willow covering 60% of the wetland area with 40% of bare ground. No herbaceous species are currently present as a result of the lake dewatering. Hydric soils are present consisting of sand, a soil type derived from fluvial processes (a process of erosion and movement of sediment driven by water). Wetland hydrology sustaining PSS habitat is present in the form of semi-permanent surface water that is normally pooled within shorelines of Woodmoor Lake.

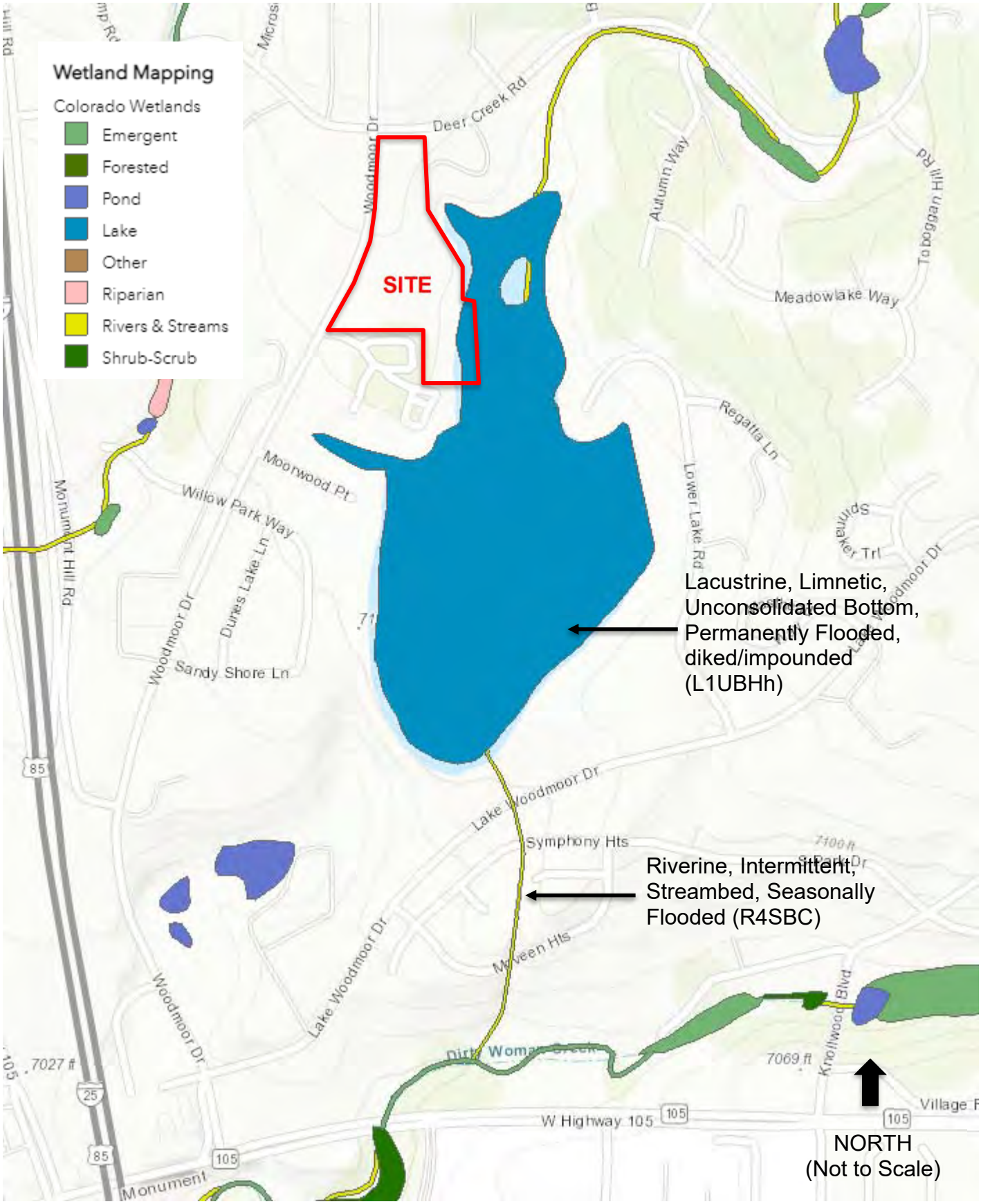
It is ecos opinion that Woodmoor Lake is a jurisdictional WOTUS, including a palustrine shrub-scrub (PSS) wetland fringe along its shoreline. Woodmoor Lake has a defined or continuous water surface connection to Dirty Woman Creek, downstream relatively permanent waters (RPWs) which is a tributary to Monument Creek, Fountain Creek and the Arkansas River, traditional navigable waters (TNWs).

Woodmoor Lake meets the criteria that the USACE uses to assert jurisdiction, as is constitutes:

- Traditional navigable waters;
- Wetlands adjacent to traditional navigable waters;
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and
- Wetlands that directly abut such tributaries.

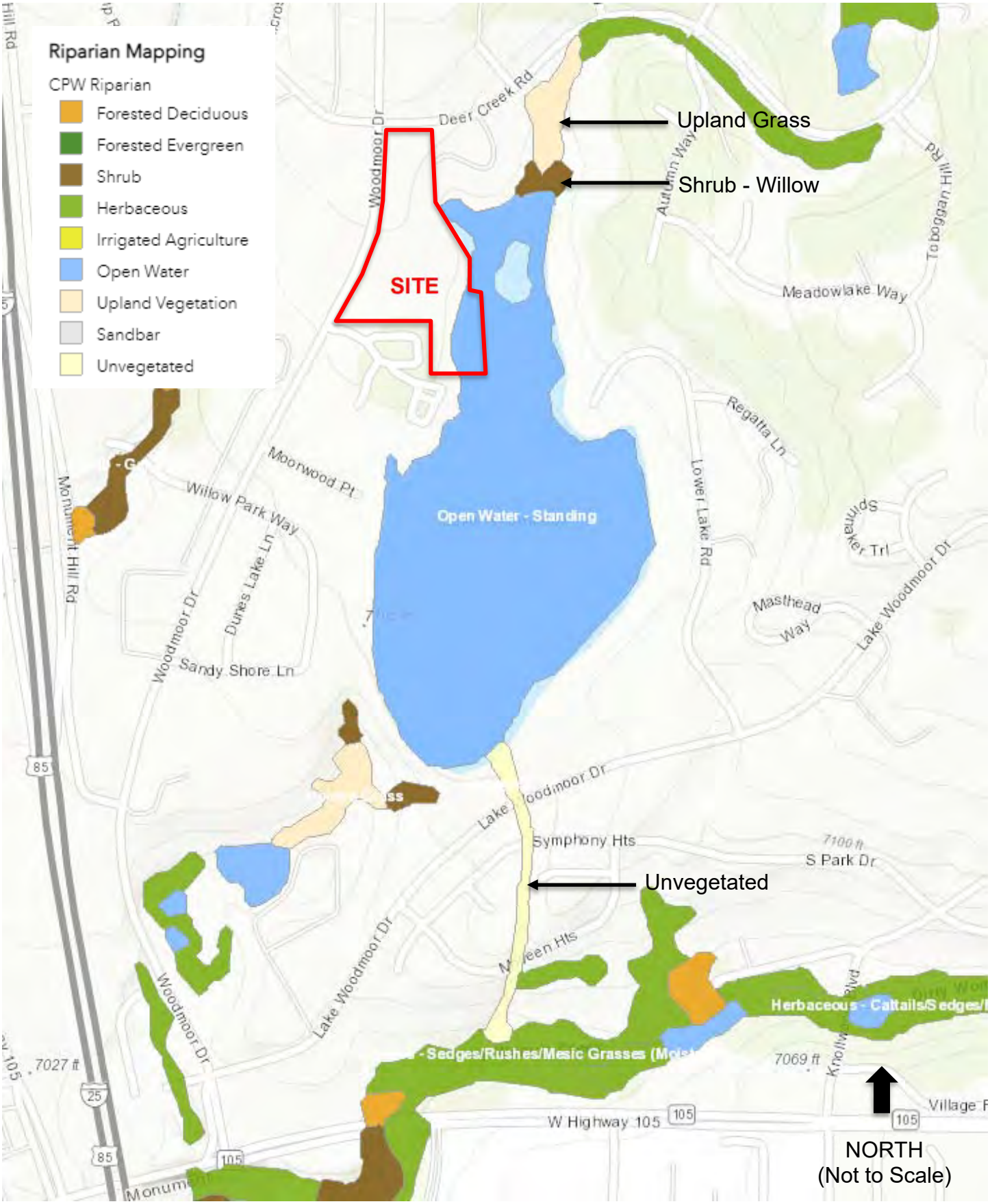
Non-Jurisdictional WOTUS, Isolated Wetland Habitat

There were no non-jurisdictional features observed on Site.



Source: CNHP Wetland Mapper

Figure 4 NATIONAL WETLAND INVENTORY MAP



Source: CNHP Wetland Mapper

Figure 5 CNHP RIPARIAN AREAS MAP

Source: Ecosystem Services, LLC Delineation, 10/13/2021

Figure 6 WOTUS DELINEATION MAP

3.5 Weeds

The stated purpose of the 2018 El Paso County Development Standards for "Noxious Weeds" is "to ensure that proposed development is reviewed in consideration of the impacts to noxious weeds in order to:

- Implement the El Paso County Noxious Weed Management Plan;
- Implement the provisions of the Colorado Noxious Weeds Act;
- Reduce the spread or noxious weeds; and
- Reduce County cost for noxious weed management in newly accepted right-of-ways."

A Weed Management Plan is provided in Appendix B to address this standard.

3.5.1 Noxious Weed Survey Results

Only three species of noxious weeds were observed. They were intermixed in disturbed grassland and mid- grass prairie, not in discrete stands and therefore a Noxious Weed Map is irrelevant. Knapweed (diffuse and hybrid) was the most abundant noxious weed with 5-10% cover throughout the disturbed grassland areas. Hybrid knapweed is a cross between diffuse knapweed and spotted knapweed (*C. stoebe*), thus spotted knapweed may also be present but was not seen during the Site visit. Knapweed was also present in the mown portions of the midgrass prairie but with much lower cover (0-3%). Knapweed was generally absent from unmown areas. Thus, it appears as if mowing in later summer/early fall when it has already gone to seed has spread knapweed. The only other noxious weed observed was common mullein. This was mostly limited to the northeastern corner where there was recent construction and cover was approximately 5%.

No noxious weed species on the Colorado Department of Agriculture List A or the Watch List were observed on the Site (CDA 2021).

Two List B noxious weed species (CDA 2021) were observed on the Site,

- diffuse knapweed (*Centaurea diffusa*) and
- hybrid knapweed (*Centaurea psammogena*).

The only List C noxious weed species (CDA 2021) observed on Site was

- common mullein (*Verbascum thapsus*).

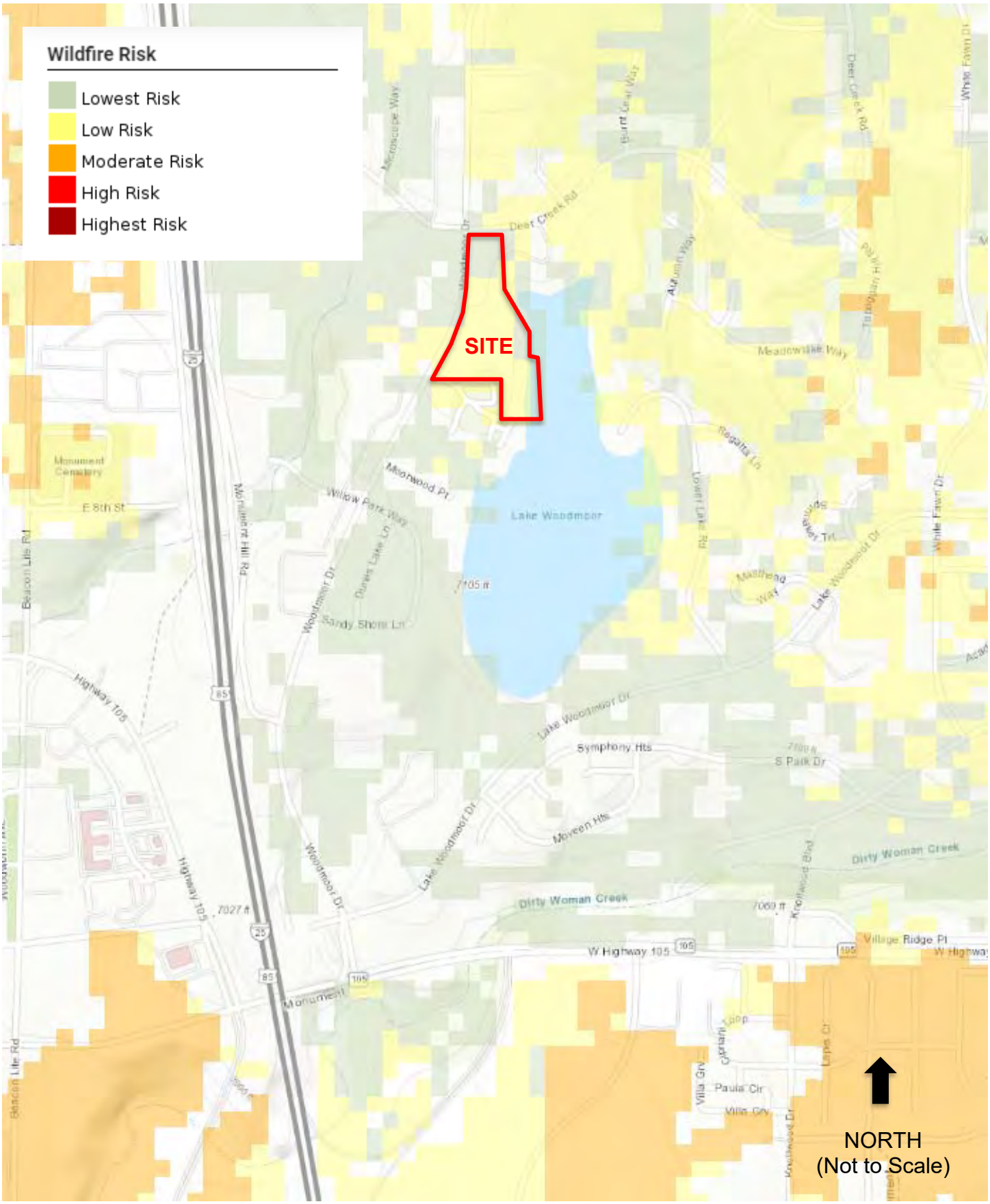
3.6 Wildfire Hazard

The stated purpose of the 2018 El Paso County Development Standards for "Fire Protection and Wildfire Mitigation" is: "To ensure that proposed development is reviewed in consideration of the wildfire risks and need to provide adequate fire protection in order to:

- Regulate development, buildings, and structures so as to minimize the hazard to public health, safety, and welfare;
- Ensure that adequate fire protection is available for new development;
- Implement wildfire hazard reduction in new development;
- Encourage voluntary efforts to reduce wildfire hazards; and
- Reduce the demands from the public for relief and protection of structures and facilities."

The Colorado State Forest Service (CSFS) Wildfire Risk Map for El Paso County is an "overall composite risk occurring from a wildfire derived by combining Burn Probability and Values at Risk Ratings". "Burn Probability is the annual probability of any location burning due to wildfire.

The Values at Risk Rating is an overall rating that combines the risk ratings for Wildland Urban Interface (WUI), Forest Assets, Riparian Assets, and Drinking Water. CSFS classifies the grassland areas on Site as “Lowest and Low Risk”. Pine-oak woodland and riparian areas on Site are classified as “Lowest Risk”. Refer to Figure 7, Wildfire Risk Map.



SOURCE: Colorado State Forest Service, Colorado Forest Atlas, Wildfire Risk Public Viewer

Figure 7 WILDFIRE RISK MAP

3.7 Wildlife Communities

The stated purpose and intent of the “El Paso County Development Standards” section on Wildlife is: “To ensure that proposed development is reviewed in consideration of the impacts on wildlife and wildlife habitat, and to implement the provisions of the Master Plan” (El Paso County, 2018).

The Site provides habitat for birds and mammals including rodents, deer, and carnivores. The area is suitable year-round range for mule deer. The Site also provides habitat for predators such as coyote and red fox. All of the vegetation provides some habitat for wildlife and is discussed below in order from higher to lower value habitat. Riparian habitat is generally of the highest value to wildlife because it provides food and structurally diverse cover close to water. Mammals use riparian habitat as movement corridors. The trees and shrubs provide nesting habitat for many bird species. In Colorado, riparian habitat provides a life-saving refuge for migrating birds where they can stop and find food, water, and cover. The dense Gambel oak thickets also provide cover for many species and nesting habitat for birds. Gambel oaks acorns are a high nutrient food source for wildlife including squirrels, wild turkey, and black bears. The more open ponderosa pine stands provide shade and are used by different wildlife species. The diverse native grasses and forbs in the midgrass prairie support pollinators and grassland birds. The non-native trees and disturbed grassland are also used by wildlife, but native vegetation is typically used by more species.

At a landscape scale, this Site is located at the convergence (i.e., ecotone) of four different ecosystems; pine forests, pine-oak woodlands, foothill shrublands, and foothills grassland along the edge of the Black Forest – a location where wildlife diversity and abundance are typically high as a result of multiple habitat types in close proximity to each other. The Site is one of the few remaining undeveloped sites, however, due to poor regional ecological/open space planning the functions and values of the Black Forest ecotone have not been preserved. This Site is now isolated within a highly fragmented and completely suburbanized landscape surrounded by busy roads, schools, churches and housing on all sides except for Woodmoor Lake. As such, it will be important to design for the preservation of as much pine, oak, grassland and riparian habitat as possible within the Site, but especially along the edge of Woodmoor Lake to provide a critical north-south travel corridor for wildlife move to upstream and downstream habitats. Preservation and/or integration of the different habitat types and a native buffer around Woodmoor Lake will also be important for migrating birds during spring and fall migration to find refuge, food and cover when bad weather along the Palmer divide can force them to land until conditions improve and they can resume migration.

The COGCC Web GIS (COGCC, 2021) does not indicate the presence of any large raptor nests within a 1-mile radius of the Site. No large raptor nests were observed on the Site or adjacent properties. However, nests may have been hidden by leaves and new nests could be constructed in the future.

According to the USFWS IPaC Trust Resources Report, the Site contains no Wildlife Refuges or Hatcheries and there are three migratory birds of conservation concern (BCC), but with low probability of presence (USFWS, 2021) (Appendix C). Two species are not expected to occur because there is no suitable habitat on Site or nearby; the ferruginous hawk (*Buteo regalis)* is a grassland raptor of the open plains and the pinyon jay (*Gymnorhinus cyanocephalus*) is closely tied to pinyon-juniper woodlands. The third species is the bald eagle (*Haliaeetus leucocephalus*). The IPAC stated that there are no BCC in this area, but it “warrants attention because of the Bald and Golden Eagle Protection Act (BGEPA).” Bald eagles may occasionally fish at Woodmoor Lake, but there are no known nests nearby.

4.0 FEDERAL LISTED SPECIES

A number of species that occur in El Paso County are listed as candidate, threatened or endangered by the USFWS (USFWS, 2021) under the Endangered Species Act (ESA). Ecos compiled the Federally-listed species for the Site in Table 1 based on the Site-specific, USFWS IPaC Trust Resources Report we ran for the Project (Appendix C); and our onsite assessment. Ecos has provided our professional opinion regarding the probability that these species may occur within the Site and their probability of being impacted by the Project.

The likelihood that the Project would impact any of the species listed below is very low to none. Most are not expected to occur in the Project area or on the Site; nor will they be affected by the indirect effects of the Project. The Preble's meadow jumping mouse is discussed in more detail below because there is USFWS designated Critical Habitat in the County.

TABLE 1 - FEDERAL LISTED SPECIES ASSESSED FOR THE PROJECT

Species	Status	Habitat Requirements and Presence	Probability of Impact by Project
INSECTS			
Monarch Butterfly (*Danaus plexippus*)	Candidate	Multigenerational migrant that breed throughout North America and overwinters in dense congregations in Mexican montane fir forests. The larval hostplant is milkweed (*Asclepias* spp.). Habitat includes areas with nectar for feeding and/or milkweed for laying eggs, especially grasslands and wetlands. Breeding habitat threats are widespread native grasslands loss and herbicide use. Logging destroys overwintering habitat. In Colorado, they are present in low numbers from ~May to September. Onsite, the mid-grass prairie and riparian vegetation provide moderate quality habitat. Milkweed may be present in the riparian habitat but is probably not sufficient to support reproduction.	Insignificant. Project impacts are miniscule/ undetectable relative to threats across the huge range. Impacts could be mitigated by planting native species and limiting herbicide use.
FISH			
Greenback cutthroat trout (*Oncorhynchus clarki stomias*)	Threatened	Cold, clear, gravely headwater streams and mountain lakes that provide an abundant food supply of insects.	None. Suitable habitat does not exist on the Site.

TABLE 1 - FEDERAL LISTED SPECIES ASSESSED FOR THE PROJECT			
Species	**Status**	**Habitat Requirements and Presence**	**Probability of Impact by Project**
Pallid sturgeon (*Scaphirhynchus albus*)	Endangered	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.	None. The proposed Project is not in the watershed for any of the listed river basins.
BIRDS			
Eastern Black Rail (*Laterallus jamaicensis*)	Threatened	Inhabits large marshy areas with dense perennial herbaceous cover interspersed with, or adjacent to, very shallow water. In Colorado, this species is only known to occur in large marshes associated with the Arkansas River and surrounding impoundments.	None. No suitable habitat nor would there be downstream impacts to the Arkansas River.
Piping plover (*Charadrius melodus*)	Threatened	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.	None. The proposed Project is not in the watershed for any of the listed river basins.
Whooping crane (*Grus americana*)	Endangered	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.	None. The proposed Project is not in the watershed for any of the listed river basins.
MAMMALS			

TABLE 1 - FEDERAL LISTED SPECIES ASSESSED FOR THE PROJECT			
Species	**Status**	**Habitat Requirements and Presence**	**Probability of Impact by Project**
Preble's meadow jumping mouse (*Zapus hudsonius preblei*)	Threatened	Inhabits well-developed riparian habitat with a dense combination of grasses, forbs and shrubs; a taller shrub and tree canopy may be present. Requires a nearby water source, adjacent native grasslands for feeding, and dense shrubs for hibernating. Has been found to regularly use uplands at least as far out as 100 meters beyond the 100-year floodplain. Disperses along riparian corridors. Very unlikely to occur on Site due to: 1) absence of habitat sufficient to support the life requisites of the species; 2) Site is 0.5 mile north of closest USFWS Critical Habitat and occupied range with actual habitat (Figure 8) and 3) there are no viable dispersal corridors to the Site from Critical Habitat along Dirty Woman Creek due to development along Woodmoor Drive and lack of vegetative cover around Woodmoor Lake.	Very Low/ Discountable. Not expected to occur on Site, Project preserves on-Site riparian habitat, no impacts to Critical Habitat.
PLANTS			
Ute ladies'-tresses orchid (*Spiranthes diluvialis*)	Threatened	Primarily occurs along seasonally flooded river terraces, sub-irrigated or spring-fed abandoned stream channels or valleys, and lakeshores. May also occur along irrigation canals, berms, levees, irrigated meadows, excavated gravel pits, roadside borrow pits, reservoirs, and other human-modified wetlands. Very unlikely to occur as the Site is situated at 7,110 to 7,150 feet above mean sea level, which is higher than the 6,500-foot upper elevation limit documented for the species. Therefore, USFWS does not even recommend conducting a survey.	None. Not expected to occur and wetlands would not be impacted.

TABLE 1 - FEDERAL LISTED SPECIES ASSESSED FOR THE PROJECT			
Species	**Status**	**Habitat Requirements and Presence**	**Probability of Impact by Project**
Western prairie fringed orchid (*Platanthera praeclara*)	Threatened	Occurs in tallgrass prairie in Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and Oklahoma. Upstream depletions to the Platte River system in Colorado and Wyoming may affect the species in Nebraska.	None. The proposed Project will not alter or deplete flows to the South Platte.

4.1 Preble's meadow jumping mouse

4.1.1 Natural History and Habitat

The Preble's meadow jumping mouse (PMJM) is a small mammal approximately 9-inches in length with large hind feet adapted for jumping, a long bicolor tail (which accounts for 60% of its length), and a distinct dark stripe down the middle of its back, bordered on either side by gray to orange-brown fur (USFWS, 2016). This largely nocturnal mouse lives primarily in the foothills of southeastern Wyoming, and south to Colorado Springs, along the eastern edge of the Front Range of Colorado. PMJM are true hibernators. They usually enter into hibernation in September or October and emerge in May of the following spring.

PMJM typically inhabits areas characterized by well-developed plains riparian vegetation with relatively undisturbed grassland and a water source in close proximity (Armstrong et al. 1997). PMJM regularly range into adjacent uplands to feed, hibernate, and avoid flooding. They hibernate in areas with dense shrubs including sandbar willow, chokecherry (*Prunus virginiana*), and snowberry (*Symphoricarpos albus*), typically near the upper edge of the floodplain. Radio-tracking studies conducted by CPW have documented PMJM using upland habitat adjacent to wetlands and riparian areas (Shenk and Sivert 1999).

The riparian vegetation on Site is poor PMJM habitat because it is limited to a narrow strip along Woodmoor Lake, herbaceous wetland vegetation is minimal, and the Lake is currently empty. The adjacent upland habitat is of moderate quality for feeding and hibernating based on the native vegetation diversity, non-native cover, and structural diversity of grasses and shrubs.

4.1.2 Threats

Threats to PMJM and their habitat include habitat alteration, degradation, loss, and fragmentation resulting from human land uses including urban development, flood control, water development, and agriculture. Habitat destruction may impact individual PMJM directly or by destroying nest sites, food resources, and hibernation sites; by disrupting behavior; or by forming a barrier to movement. Invasive non-native and noxious weeds can alter habitat and decrease its value.4

4.1.3 Critical Habitat

Critical Habitat is specific areas designated by the USFWS as being essential to the conservation of PMJM (USFWS, 2016). Please refer to Figure 8 – PMJM Habitat and USFWS

Trapping Map. In determining which areas to designate as Critical Habitat, the USFWS must use the best scientific and commercial data available and consider physical and biological features (primary, constituent elements) that are essential to conservation of the species, and that may require special management consideration and protection. The primary constituent elements for the PMJM include those habitat components essential for the biological needs of reproducing, rearing of young, foraging, sheltering, hibernation, dispersal, and genetic exchange. Thus, Critical Habitat includes riparian areas located within grassland, shrub land, forest, and mixed vegetation types where dense herbaceous or woody vegetation occurs near the ground level, where available open water exists during their active season, and where there are ample upland habitats of sufficient width and quality for foraging, hibernation, and refugia from catastrophic flooding events. Section 7 of the Endangered Species Act prohibits destruction or adverse modification of a Critical Habitat by any activity funded, authorized, or carried out by any Federal agency, and Federal Agencies proposing actions affecting areas designated as Critical Habitat must consult with the USFWS on the effects of their proposed actions, pursuant to Section 7(a)(2) of the Act.

The closest PMJM Critical Habitat is located 0.5-mile south of the Site (USFWS, 2010) (Figure 8). This Critical Habitat is located along the portion of Dirty Woman Creek south of 2nd Street/Highway 105. Preble's meadow jumping mouse presence was confirmed in 1998 and 2003. It is unlikely that PMJM would disperse from the Critical Habitat to the Site because the area between the Critical Habitat and the Site consists of two significant barriers to PMJM dispersal.

- Between Dirty Woman Creek and Woodmoor Lake there is dense commercial and residential development along Woodmoor Lake Drive. All that remains of connectivity to/from Dirty Woman Creek is a concrete-lined spillway. Thus, there is no existing riparian corridor connecting Dirty Woman Creek to Woodmoor Lake
- Second, most of the area around Woodmoor Lake is residential development or mowed grass; therefore, native riparian and upland cover are sparse and discontinuous.

4.1.4 Potentially Occupied Range

Colorado Parks and Wildlife (CPW) mapped areas of "potential" PMJM occupied range (CPW, 2005). The occupied range mapping is based on known occurrences of PMJM (i.e., trapping data) and mapped riparian vegetation (i.e., potential habitat that was not necessarily trapped or verified). For each known PMJM location, a one-mile buffer is applied to riparian areas both upstream and downstream. This includes both the main channel and side channels. Additionally, a 100-meter lateral buffer is applied which, in general, represents foraging and hibernaculum habitat. This buffer serves as a general guideline. Site-specific topographic and vegetative features may increase or decrease the area considered locally as foraging and hibernaculum habitat. Where riparian vegetation maps don't exist, the stream centerline is buffered laterally by 100 meters.

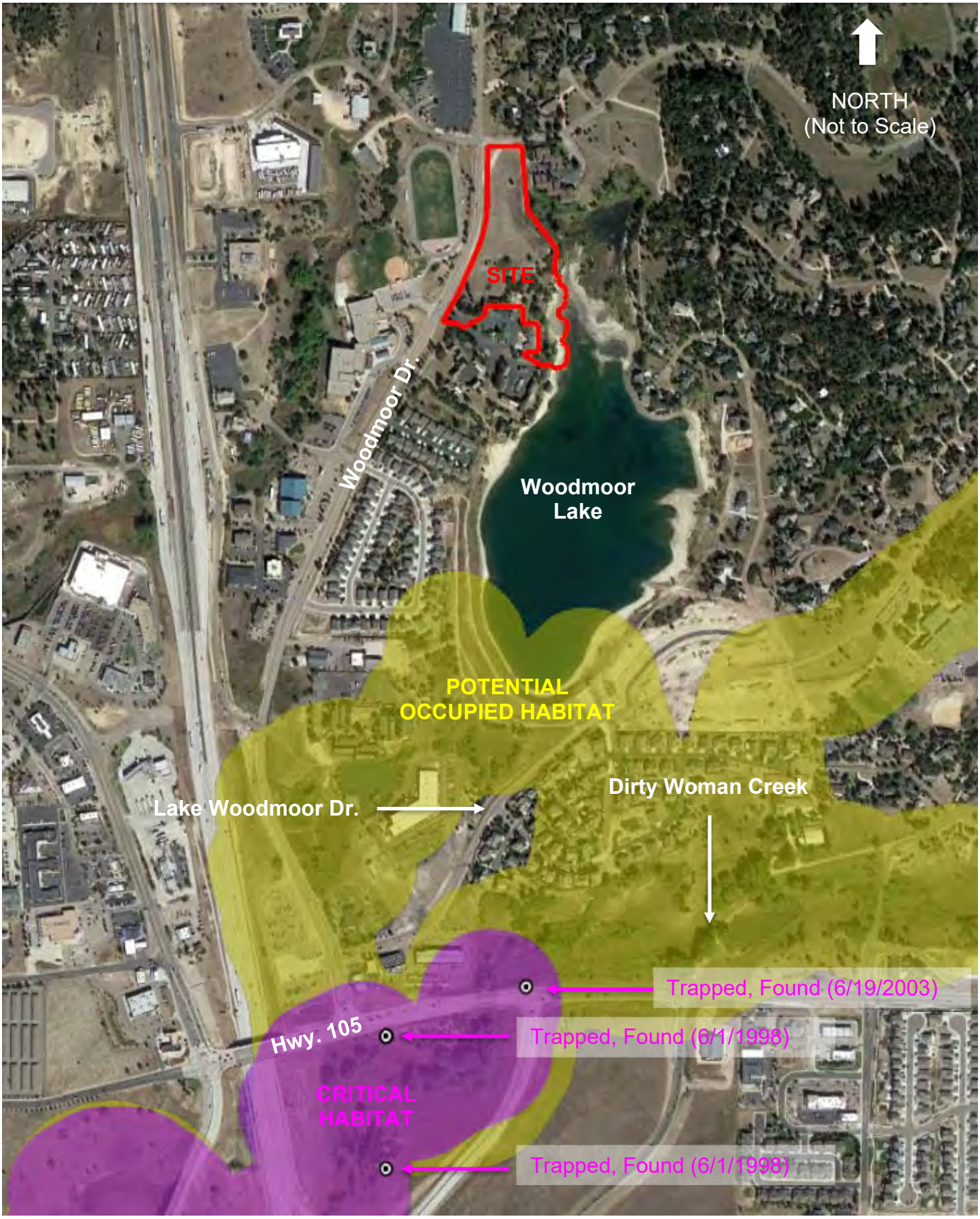
It should be noted that the CPW "mapped riparian vegetation" data upon which a significant portion of this "occupied range" mapping is based was not necessarily verified in the field. As such it should only be used for planning purposes and must be field verified.

The closest mapped "occupied range" is 0.2 mile south of the Site (Figure 8) (CPW, 2005). The CPW mapped occupied range extends upstream (north and east) from a PMJM capture along Dirty Woman Creek near 2nd Street/Highway 105. However, most of the small drainages north of the creek (south of Woodmoor Lake) have been developed, as described above. Thus, the occupied range map is no longer relevant because it is based on the historic condition of the

three small drainages. PMJM are likely confined to the undeveloped habitat immediately adjacent to Dirty Woman Creek, including the designated Critical Habitat.

4.1.5 Summary

The PMJM is not expected to occur on the Site because it is not known to be present north of Dirty Woman Creek and dispersal from the Creek to the Site is blocked by development. Additionally, there is no suitable riparian habitat on-Site.



Source: U.S. Fish and Wildlife Service (USFWS)

Figure 8 PMJM HABITAT & USFWS TRAPPING MAP

5.0 RAPTORS AND MIGRATORY BIRDS

Raptors and most birds are protected by the Colorado Nongame Wildlife Regulations, as well as by the federal Migratory Bird Treaty Act (MBTA) and/or the Bald and Golden Eagle Protection Act (BGEPA). The Site provides foraging and wintering habitat for raptors. The large native and non-native trees near Woodmoor Lake are potential nesting habitat for raptors however no existing nest sites for any raptors were noted during the Site visit and no raptor nests have been mapped within one mile of the Site by COGCC (COGCC, 2021). New nests could be found in the future prior to construction.

There is suitable habitat for other nesting migratory birds within the Study Area, primarily in the Gambel oak patches and shoreline riparian habitat. Birds were the most common wildlife observed by ecos during the Site visit. Species diversity was low and mostly included species common in developed suburban areas, such as mourning dove (*Zenaida macroura*). A spotted towhee (*Pipilo maculatus*) was seen in a Gambel oak thicket, this attractive bird nests and forages in dense brush.

6.0 SUMMARY OF POTENTIAL IMPACTS

6.1 Mineral and Natural Resource Extraction

Record searches of the El Paso County Clerk and Recorder establishing mineral rights and ownership are outside the purview of this report. However, mineral or natural resource extraction is not expected to occur as a part of this Project, and therefore no associated impacts to habitat are anticipated. A Mineral Rights Certification is provided in Appendix E.

6.2 Vegetation

Based on the current grading plan, almost the entire Site would be cleared, graded, and developed above the crest of the bank/slope leading up from Woodmoor Lake. Figure 3, Vegetation Community Map and Figure 6, WOTUS Delineation Map illustrate the LOD based on the Site Plans provided (Appendix E) during the preparation of this report. Vegetation impacts would be high due to the loss of some of the few remaining areas of pine-oak woodland and midgrass prairie around Woodmoor Lake. Loss of disturbed grassland and non-native trees is not considered to be a significant impact. The only area that would not be graded is the Lake Maintenance Easement located in the southeast corner of the Site; thus, most of the riparian habitat along Woodmoor Lake would be preserved.

In order to minimize vegetation impacts, existing native vegetation should be preserved and integrated into the Site plan to the extent possible and all re-planting/landscaping should consist of native species from the same ecosystem. Ecos has identified the following opportunities to reduce and mitigate impacts to the vegetation community.

- Preserve and integrate as much of the ponderosa pines and native grassland as possible (Figure 3) in the southwest corner of the Site to serve as a natural buffer between the development and entry to the Woodmoor Barn Community Center with care given to controlling weeds and seeding bare areas. This strategy would reduce landscaping, maintenance, and irrigation costs and preserve mature pine trees.
- Preserve and integrate as much of the pine-oak woodland as possible along the eastern perimeter of the Site. Tie proposed grade to existing grade as soon as feasible. Gambel oak is a deep-rooted, slow growing species that provides wildlife habitat and stabilizes the soil. If cleared or lightly graded, it can grow back from sprouts.

- The proposed stormwater detention pond in the southeast corner provides an opportunity to create a natural area that extends/expands the adjacent riparian habitat into uplands if/when sufficiently saturated by detained stormwater. If possible, shape/grade the pond to avoid patches of existing upland pine-oak and riparian cottonwood-willow woodland . Mimic natural topography and avoid rectangular shapes. Use native plantings including shrubs, grasses, and flowering plants.
- Incorporate native species into the landscaping plan to the extent possible. Include species of flowering shrubs and forbs preferred by pollinator species like monarch butterflies. Direct home downspouts into swales and encourage residents to plant native pollinator gardens in these areas.
- Minimize or avoid using Kentucky bluegrass (*Poa pratensis*) because it requires frequent watering, mowing, and herbicides.
- Blue grama and buffalo grass are good native bunch and sod forming, and low-water lawn grass alternatives to Kentucky bluegrass. They can be mixed with other native grasses and forbs in more natural areas.
- Do not plant or seed invasive non-native grass such as smooth brome (*Bromus inermis*) or crested wheatgrass (*Agropyron cristatum*).
- Remove non-native trees wherever found, including the black locust and Siberian elm identified in area mapped as Non-native Trees (Figure 3). Replace them with native species including ponderosa pine, Gambel oak and/or cottonwood.
- Within preservation and/or common areas and stormwater detention facilities, control noxious weeds and other non-native species.

6.3 Wetland Habitat and Waters of the U.S.

The latest Site plan provided as of the date of this report indicates that a small stormwater detention facility will need to be constructed immediately adjacent to the Woodmoor Lake in the southeast portion of the site. An outfall structure from the detention basin into the margin of the Lake will be required. Any portion of the detention pond, including a spillway or outfall structure (pipe, excavation, grading or placement of riprap scour protection) that overlap wetlands or the OHWM will be considered permanent impacts by the USACE. The Site Plan proposes 12 square feet (0.0003-acre) of permanent impact to wetlands required out of necessity to install a flared end section and riprap scour apron at the terminal end of the outfall pipe. No permanent impacts to waters (open water) are proposed. Any area surrounding the terminal end of the outfall pipe disturbed during the installation that can be returned to original grade and restored to pre-existing condition after construction is considered a temporary impact, not a permanent impact.

6.5 Wildfire Hazard

The Colorado State Forest Service Wildfire Risk Map for El Paso County classifies the grassland and woodland areas that comprise the Site as “Lowest and Low Risk”. Refer to Figure 7, Wildfire Risk Map.

The data provided herein is a summary of natural wildfire risk as presented by the CSFS. Discussion of potential wildfire impacts, fire protection, mitigation and response to meet El Paso County development code and applications requirements is not within the purview of this report and is discussed under separate cover by those who specialize in such matters.

6.6 Wildlife Communities

Impacts to wildlife are similar to those for vegetation. The Project will directly impact approximately 3.13 acres of moderate quality mid-grass prairie and pine-oak woodland habitat.

The project will also impact approximately 2.36 acres of low quality disturbed grassland, 0.32 acres of bare ground and pavement, and 0.65 acre of non-native elm/locust habitat. Approximately 0.50 acres of riparian habitat and 0.56 of open water/mudflat along Woodmoor Lake will be preserved. Riparian trees and shrubs are good habitat for many birds and is especially important during migration. Riparian habitat also provides habitat connectivity around the Lake perimeter. The following, additional recommendations are intended to reduce and mitigate impacts to wildlife:

1. Take steps to preserve existing vegetation buffer/corridor along the south and east sides of the Site (i.e., pine-oak and riparian woodland) to provide a wildlife travel corridor and habitat cover. Travel corridors around water bodies are important because habitat around the Lake has already been cut-off or obstructed by surrounding lakeshore development. Mitigation steps include preserving and planting native vegetation, not installing fences, and no lighting that illuminates vegetation along travel corridors.
2. Enhance the lakeshore/riparian preservation area for wildlife by adding and improving vegetation and limiting access. Vegetation improvements include removing non-native species and planting diverse native shrubs that provide food, cover and food for wildlife, such as chokecherries, American plum (*P. Americana*), golden currant (*Ribes aureum*), and snowberry. Limiting or controlling human access (foot traffic) is best for wildlife. When people access the lake edge, then incorporate design measures to define and guide foot traffic to specific trails, minimize random social trails, trampling of vegetation, and concentrate lake use in a single play area. This can include vegetative barriers, short sections of split rail fencing, or a simple, defined paths.
3. Create habitat for monarch butterflies by planting native showy milkweed (*Asclepias speciosa*) and other native flowering plants along the wetland edge or in the detention pond.
4. Limit the use of herbicides, pesticides and fertilizers, including mosquito spraying.
5. Do not build long, impermeable fences or high retaining walls that would restrict wildlife movement through the Site, especially north-south movement.
6. Curtail light pollution by using minimal outdoor lighting, motion sensor lights, downcast lighting, and low brightness. Include similar requirements in the HOA guidelines and do not allow uplighting. In addition to benefitting wildlife, “dark skies” are an attractive amenity because there is growing light pollution awareness and people appreciate seeing the night sky and stars.

6.7 Federal Listed Species

The Site is not located within Critical Habitat for federally designated threatened or endangered species, including the PMJM. The Site is not located within any USFWS designated Critical Habitat or known occupied habitat for federally designated threatened or endangered species. Therefore, based on the data available for this Report, no direct or indirect impacts to federally designated threatened or endangered species will occur from the implementation of the Project.

6.8 Raptors and Migratory Birds

The Project is expected to have low to moderate impacts on raptors and migratory birds. Approximately 6.30 acres of the Site will be directly impacted. Approximately 3.33 acre of that is disturbed or non-native habitat. Since most of the land adjacent to Woodmoor Lake has been developed, the most significant impact to raptors and birds will be the loss of approximately 3.13 acres of native grasslands and pine-oak woodland. Preservation of approximately 0.50 acre of

riparian and 0.56 acres of open water/mudflat habitat (1.06 acre) will be beneficial to birds. Negative impacts can be minimized by following the recommendations in the vegetation and wildlife sections.

7.0 REGULATIONS AND RECOMMENDATIONS

7.1 Clean Water Act

Section 404 of the Clean Water Act (CWA) prohibits the discharge of dredged or fill material into waters of the U.S. (including wetland habitat) without a valid permit.

It is ecos' preliminary, but confident determination that Woodmoor Lake, including any wetland along the shoreline are jurisdictional WOTUS. Ecos' preliminary determination is not official until an Approved Jurisdictional Determination (AJD) Request or a Clean Water Act (CWA) Section 404 Permit is submitted to the USACE and they either issue an official AJD or an approved permit.

The current Site Plan indicates that a stormwater detention facility will need to be constructed immediately adjacent to the Woodmoor Lake in uplands. An outfall structure from the detention basin into the lake is required consisting of an 18-inch rigid concrete pipe and flared end section with an 8 square foot riprap scour apron. That portion of the outfall structure pipe and riprap sour protection that overlap wetlands or the OHWM is considered as a permanent impact by the USACE and will require a CWA Section 404 Permit. Although permanent impacts for this structure are infinitesimal (i.e., a total of 12 square feet/0.0003-acre) technically requires that LWD provide a Nationwide Permit 29 for Residential Development Pre-construction Notification(PCN) to the USACE for authorization prior to construction of any feature that impacts jurisdictional WOTUS as a part of a residential development. Given the very small amount of permanent impact that will result from this Project, the USACE has the discretion to waive the Permit requirement.

7.2 Endangered Species Act

The Site is not located within any officially designated occupied or Critical Habitat for federally designated threatened or endangered species, including the Preble's meadow jumping mouse. Therefore, there will be no impacts to federally designated threatened or endangered species and no need to initiate consultation with the USFWS under the ESA.

Upon completion and acceptance of this report by El Paso County, the Applicant will submit it to the USFWS and request a "Clearance Letter", including clearance of PMJM. Once submitted, ecos anticipates that they USFWS will return a statement that they have "…no concerns with this Project resulting in impacts to species listed as candidate, proposed, threatened, or endangered." Said letter will be provided to El Paso County upon receipt.

The project can optimize habitat for two federally-listed species by following the recommendations in the vegetation and wildlife sections. These measures would support monarch butterflies and improve conditions for Preble's meadow jumping mouse if it moves to Woodmoor Lake in the future. They would also benefit multiple other species.

7.3 Migratory Bird Treaty Act & Bald and Golden Eagle Protection Act

No raptor nests have been mapped within one mile of the Site (COGCC, 2021) and no migratory bird nests were observed within the Site during ecos' assessment. However, given the transitory nature of these species and there are many nesting birds that use Gambel oak, ecos recommends a nesting bird inventory immediately prior to construction to identify any nests

within the Site or within the CPW recommended buffers of the Site. To that effect, ecos recommends that two surveys for migratory birds and their nests be performed: 1) approximately one to two months prior to construction; and 2) one week prior to construction. If migratory bird or raptor species are found to be present and actively nesting and laying eggs, construction activities will need to be restricted during the breeding season near any newly identified nests to ensure the avoidance of take during the nesting and fledging season (depending on the species). If clearing occurs between September and February (outside the nesting season), no surveys are needed.

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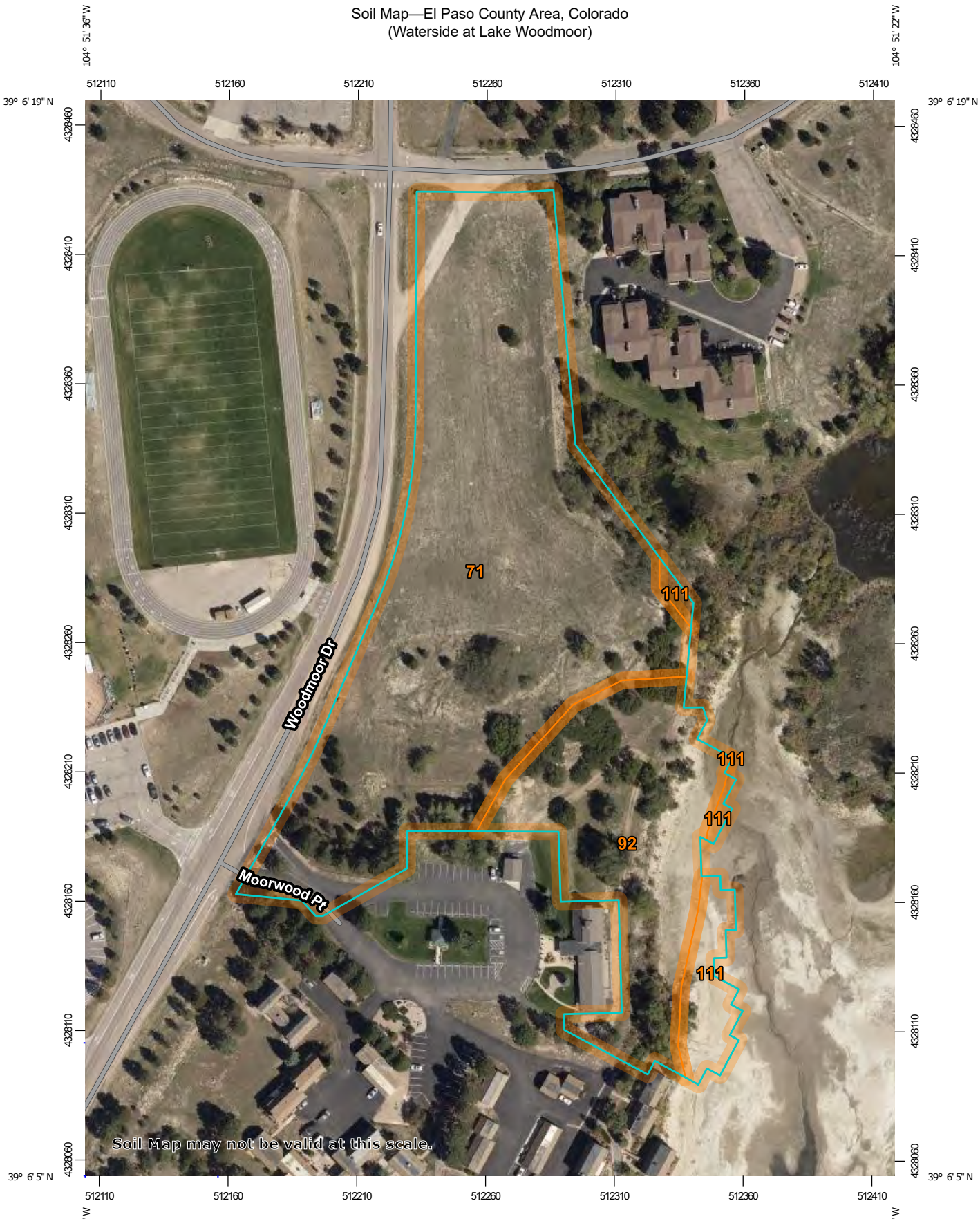
APPENDIX A

USDA SOIL SURVEY

Soil Map—El Paso County Area, Colorado
(Waterside at Lake Woodmoor)



Map Scale: 1:2,030 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 19, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 19, 2018—Sep 23, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
71	Pring coarse sandy loam, 3 to 8 percent slopes	5.3	70.5%
92	Tomah-Crowfoot loamy sands, 3 to 8 percent slopes	1.8	24.5%
111	Water	0.4	5.0%
Totals for Area of Interest		**7.5**	**100.0%**

El Paso County Area, Colorado

71—Pring coarse sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 369k
Elevation: 6,800 to 7,600 feet
Farmland classification: Not prime farmland

Map Unit Composition

Pring and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pring

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Arkosic alluvium derived from sedimentary rock

Typical profile

A - 0 to 14 inches: coarse sandy loam
C - 14 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: R048AY222CO - Loamy Park
Hydric soil rating: No

Minor Components

Pleasant

Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

Other soils

Percent of map unit:
Hydric soil rating: No

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 19, Aug 31, 2021

El Paso County Area, Colorado

92—Tomah-Crowfoot loamy sands, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 36b9
Elevation: 7,300 to 7,600 feet
Farmland classification: Not prime farmland

Map Unit Composition

Tomah and similar soils: 50 percent
Crowfoot and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tomah

Setting

Landform: Hills, alluvial fans
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from arkose and/or residuum weathered from arkose

Typical profile

A - 0 to 10 inches: loamy sand
E - 10 to 22 inches: coarse sand
Bt - 22 to 48 inches: stratified coarse sand to sandy clay loam
C - 48 to 60 inches: coarse sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: R049XY216CO - Sandy Divide
Hydric soil rating: No

Description of Crowfoot

Setting

Landform: Alluvial fans, hills
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 12 inches: loamy sand
E - 12 to 23 inches: sand
Bt - 23 to 36 inches: sandy clay loam
C - 36 to 60 inches: coarse sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: R049XY216CO - Sandy Divide
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

Pleasant

Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 19, Aug 31, 2021

APPENDIX B

WEED MANAGEMENT PLAN

Per the El Paso County Noxious Weed and Control Methods document (El Paso County, 2015b): "*The most effective way to control noxious weeds is through Integrated Pest Management (IPM). IPM incorporates weed biology, environmental information, and available management techniques to create a management plan that prevents unacceptable damage from pests, such as weeds, and poses the least risk to people and the environment. IPM is a combination of treatment options that, when used together, provide optimum control for noxious weeds; however, IPM does not necessarily imply that multiple control techniques have to be used or that chemical control options should be avoided.*

- *Prevention: The most effective, economical, and ecologically sound management technique. The spread of noxious weeds can be prevented by cleaning equipment, vehicles, clothing, and shoes before moving to weed free areas; using weed-free sand, soil, and gravel; and using certified weed free seed and feed.*
- *Cultural: Promoting and maintaining healthy native or other desirable vegetation. Methods include proper grazing management (prevention of overgrazing), re-vegetating or re-seeding, fertilizing, and irrigation.*
- *Biological: The use of an organism such as insects, diseases, and grazing animals to control noxious weeds; useful for large, heavily infested areas. Not an effective method when eradication is the objective but can be used to reduce the impact and dominance of noxious weeds.*
- *Mechanical: Manual or mechanical means to remove, kill, injure, stress or alter growing conditions of unwanted plants. Methods include mowing, handpulling, tilling, mulching, cutting, and clipping seedheads.*
- *Chemical: The use of herbicides to suppress or kill noxious weeds by disrupting biochemical processes unique to plants."*

The majority of the Site will be disturbed during grading and home construction and then landscaped according to local requirements. This includes all of the disturbed grassland area where weeds are most abundant (Figure 3). The Site development plan should include measures to prevent introducing new weeds and spreading existing weeds during construction (see prevention measures above). Install silt fencing prior to construction to keep soil from areas with existing weeds out of preservation areas to remain along the eastern Site perimeter.

Noxious weeds are most likely to become established in areas where the native vegetation and soil have been disturbed by construction. Thus, restoring and maintaining desirable vegetation should always be a priority for weed control as a way to compete for sun and nutrients. Desirable vegetation may consist of native plant communities or landscaped areas. Within preservation areas to remain, all areas of noxious weeds and other non-native species should be removed to the extent possible. This includes removal of Siberian elm and black locust trees. These areas should then be seeded or planted with native species. It is not likely feasible to remove smooth brome that is growing within the Gambel oak thickets or interspersed with native mid-grass prairie species without major ground disturbance that would make weed conditions worse. Repeated mowing/cutting and applications of herbicide may be needed to eliminate weeds prior to any seeding or planting. Re-vegetation and landscaping should be completed as soon as possible following construction so that weeds do not emerge from disturbed soil and become established.

Weed management recommendations for the species observed on the Site are summarized in Table 2 below. Refer to the El Paso County "Noxious Weed and Control Methods" booklet for additional details (El Paso County, 2015b).

TABLE 2 – NOXIOUS WEED MANAGEMENT SUMMARY

Species	**Occurrence**	**Management[1,2]**
LIST B		
Knapweeds: Diffuse knapweed (*Centaurea diffusa*) Spotted knapweed (*C. stoebe*) Hybrid knapweed (*C. x psammagena*)	Abundant (5-10%) in disturbed grassland and present with low cover (3%) in mixed-grass prairie. Grows most readily in disturbed soils but can also spread into established grasslands. May spread by mowing, wind, or on equipment. Diffuse knapweed is typically a biennial that flowers the second year, but it may also be an annual or short-lived perennial. Spotted and hybrid knapweeds are short-lived perennials.	This species is difficult to control. Biological control is available and may reduce (but not eliminate) plants with less effort than other methods. Establish native vegetation and minimize disturbance to prevent existing seeds from sprouting. Mechanical: Sever the taproot below ground prior to flowering. Mowing is effective at full-bloom, but plant parts **must be disposed of properly** because seed can develop on cut plants. Some herbicide treatment is typically required for total control.
LIST C		
Common mullein (*Verbascum thapsus*)	Present in northwest corner of Site (5%). Seeds sprout in bare soil. May spread to new areas following construction. This species is a biennial that flowers in the second year.	This species is easy to control by combining (1) and (2): (1) Establish native vegetation and minimize disturbance to prevent existing seeds from sprouting. (2) Mow in summer to prevent bolting and flowering. Rosettes can be easily pulled. Only use herbicide for large patches or in areas where it is mixed with other non-native species.

[1]Refer to the El Paso County "Noxious Weed and Control Methods" booklet for additional detail (CDA, 2015b).

[1]When using herbicides, always read and follow the product label to ensure proper use and application.

APPENDIX C

USFWS IPAC TRUST RESOURCES REPORT

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

El Paso County, Colorado

Local office

Colorado Ecological Services Field Office

(303) 236-4773
(303) 236-4005

MAILING ADDRESS

Denver Federal Center
P.O. Box 25486
Denver, CO 80225-0486

PHYSICAL ADDRESS
134 Union Boulevard, Suite 670
Lakewood, CO 80228-1807

http://www.fws.gov/coloradoES
http://www.fws.gov/platteriver

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

NOT FOR CONSULTATION

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

Preble's Meadow Jumping Mouse Zapus hudsonius preblei Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. http://ecos.fws.gov/ecp/species/4090	Threatened

Birds

NAME	STATUS
Eastern Black Rail Laterallus jamaicensis ssp. jamaicensis Wherever found No critical habitat has been designated for this species. http://ecos.fws.gov/ecp/species/10477	Threatened
Piping Plover Charadrius melodus This species only needs to be considered if the following condition applies: • Project includes water-related activities and/or use in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska. There is **final** critical habitat for this species. The location of the critical habitat is not available. http://ecos.fws.gov/ecp/species/6039	Threatened
Whooping Crane Grus americana This species only needs to be considered if the following condition applies: • Project includes water-related activities and/or use in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska. There is **final** critical habitat for this species. The location of the critical habitat is not available. http://ecos.fws.gov/ecp/species/758	Endangered

Fishes

NAME	STATUS
Greenback Cutthroat Trout Oncorhynchus clarkii stomias Wherever found No critical habitat has been designated for this species. http://ecos.fws.gov/ecp/species/2775	Threatened

NOT FOR CONSULTATION

NAME	STATUS
Pallid Sturgeon *Scaphirhynchus albus* Wherever found This species only needs to be considered if the following condition applies: • Project includes water-related activities and/or use in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska. No critical habitat has been designated for this species. http://ecos.fws.gov/ecp/species/7162	Endangered

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* Wherever found No critical habitat has been designated for this species. http://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Ute Ladies'-tresses *Spiranthes diluvialis* Wherever found No critical habitat has been designated for this species. http://ecos.fws.gov/ecp/species/2159	Threatened
Western Prairie Fringed Orchid *Platanthera praeclara* Wherever found This species only needs to be considered if the following condition applies: • Project includes water-related activities and/or use in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska. No critical habitat has been designated for this species. http://ecos.fws.gov/ecp/species/1669	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

NOT FOR CONSULTATION

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE.

NOT FOR CONSULTATION

"BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. http://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Jul 31
Ferruginous Hawk Buteo regalis This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA http://ecos.fws.gov/ecp/species/6038	Breeds Mar 15 to Aug 15
Pinyon Jay Gymnorhinus cyanocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. http://ecos.fws.gov/ecp/species/9420	Breeds Feb 15 to Jul 15

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

NOT FOR CONSULTATION

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

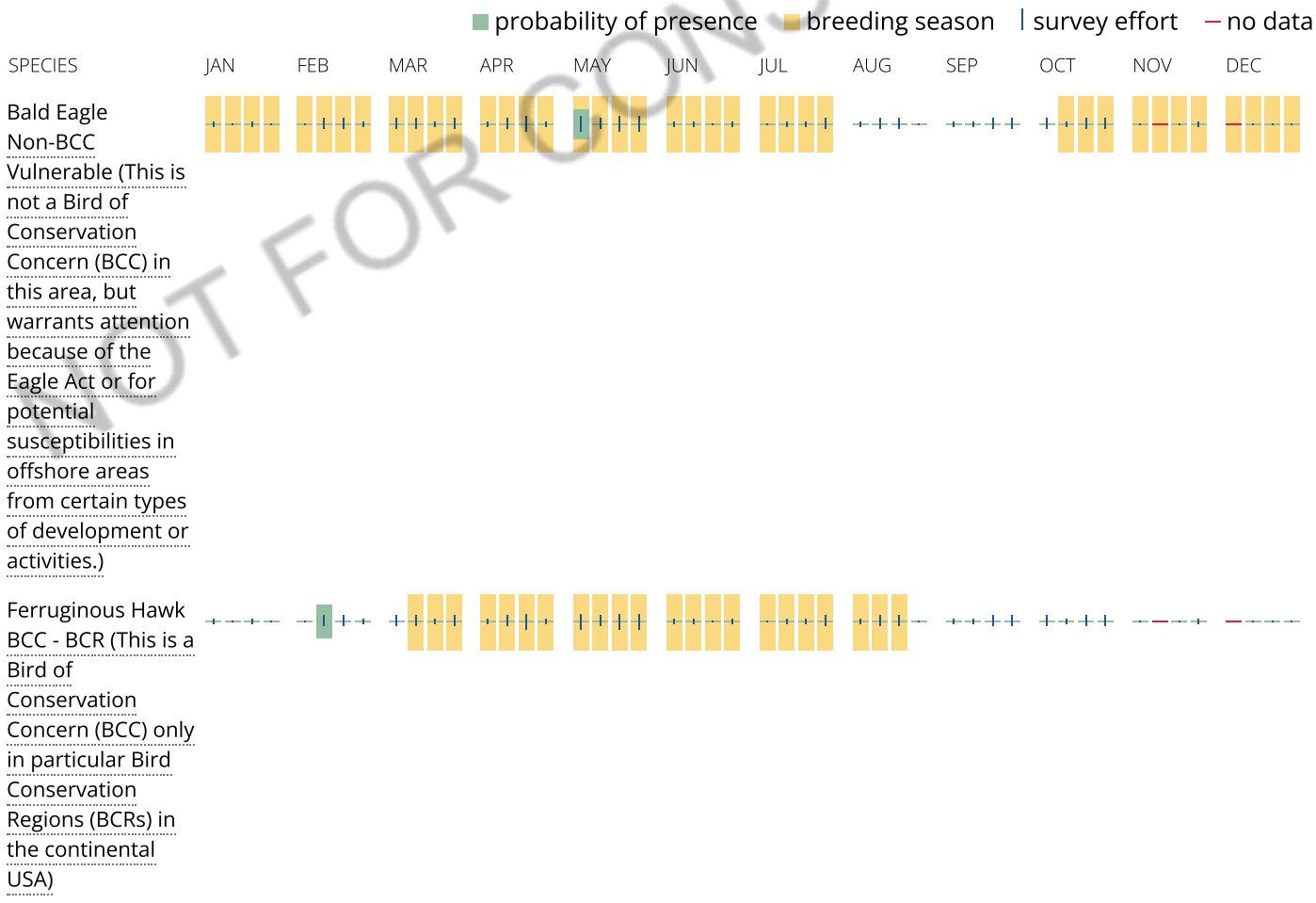
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

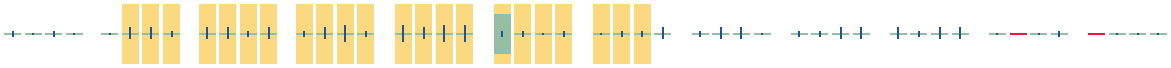
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



NOT FOR CONSULTATION

Pinyon Jay BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

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What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

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Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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APPENDIX D

REPRESENTATIVE PHOTOGRAPHS

PHOTO LOCATION MAP

(Photos taken 10/13/2021)

P1 – View south of disturbed grassland and mid-grass prairie.

P1 – View southwest of disturbed grassland and mid-grass prairie.

P1 – View west of disturbed grassland.

P2 – View north of mid-grass prairie and pine-oak woodland.

P2 - View northwest of mid-grass prairie (foreground) and disturbed grassland (background).

P2 - View west of mid-grass prairie (foreground) and disturbed grassland (background).

P2 – View southwest of mid-grass prairie (foreground) and disturbed grassland (background).

P2 - View south of mid-grass prairie (right) and non-native trees (left).

P3 – View northwest of mid-grass prairie (left), non-native trees (right), and pine-oak woodland (far right).

P3 - View west of mid-grass prairie (foreground) and disturbed grassland on plateau (background).

P3 – View south of pine-oak woodland (left) and mid-grass prairie (right.

P4 – Overview east of dewatered Woodmoor Lake (middle- and background) and riparian woodland (foreground).

P4 - Overview southeast of dewatered Woodmoor Lake (left) and riparian woodland on hillslope down to lake (right).

P4 – View south of riparian woodland on hillslope down to lake (left), mid-grass prairie (right), and non-native trees (background).

P4 – View southwest of mid-grass prairie (foreground), pine-oak woodland (right background) and non-native trees (far left background).

P4 – View west of mid-grass prairie (left) and pine-oak woodland (right).

P5 – View north of riparian habitat on hillslope (left) and shrub-scrub wetland (right) along edge of Woodmoor Lake (from north property line)

P5 – View south of riparian habitat on hillslope (right) and shrub-scrub wetland (left) along edge of Woodmoor Lake (from north property line).

P6 – View north of riparian habitat on hillslope (left) and shrub-scrub wetland (right) along edge of Woodmoor Lake (from south property line)

P6 – View east of dewatered Woodmoor Lake (from south property line)

P6 – View south of shrub-scrub wetland (foreground and dewatered Woodmoor Lake (background) from south property line.

P7 – View west of disturbed ground/stockpile area (foreground) and mid-grass prairie/non-native trees (background).

P7 – View north of disturbed ground/stockpile area (left) and pine-oak woodland (right and background).

P7 – View northeast of mid-grass prairie surrounding single oak tree (foreground and middle ground) and pine-oak woodland (background).

P7 – View east of mid-grass prairie e (foreground), non-native trees (middle ground) and riparian woodland (background).

P7 – View southeast of mid-grass prairie (foreground), non-native trees (middle ground) and riparian woodland dropping down to dewatered Woodmoor Lake (background).

P7 – View south of mid-grass prairie (left), Woodmoor Lake (far right), manicured lawn (right foreground) and Woodmoor Barn Community Center (background).

P8 – View north of mid-grass prairie from within non-native trees and pine-oak woodland.

P8 – View east of pine-oak woodland (left) and mid-grass prairie and non-native trees (right).

P9 – View north of mid-grass prairie along edge of Woodmoor Drive (left) and pine-oak woodland (right).

P9 – View northeast of mid-grass prairie and pine-oak woodland.

P9 – View east of mid-grass prairie and pine-oak woodland along edge of entry drive to Woodmoor Barn Community Center.

P10 – View north of disturbed grassland along edge of Woodmoor Drive.

P10 – View northeast of disturbed grassland from edge of Woodmoor Drive.

P10 – View east of disturbed grassland from edge of Woodmoor Drive (foreground) and patch of pine-oak woodland (middle ground right) and non-native trees (middle ground left).

P10 – View southeast of mosaic of all vegetation types from edge of Woodmoor Drive. High quality patch of ponderosa pine on (back right).

P10 – View south of mid-grass prairie from edge of Woodmoor Drive. High quality patch of ponderosa pine on (back left).

P11 – View east of disturbed grassland (fore- and middle ground) and pine-oak woodland (background).

P11 – View southeast of disturbed grassland (foreground).

P11 – View south of disturbed grassland (foreground, middle ground and background).

APPENDIX E

MINERAL RIGHTS CERTIFICATION

CERTIFICATION:

I J. Brooks Swenson researched the records of the El Paso County Clerk and Recorder and established that there was/was not a mineral estate owner(s) on the real property known as Waterside Condos Monument. An initial public hearing on TBD, which is the subject of the hearing, is scheduled for TBD _____, 20____.

Pursuant to §24-65.5-103(4), C.R.S., I certify that a Notice of an initial public hearing was mailed to the mineral estate owner(s) (if established above) and a copy was mailed to the El Paso County Planning Department on NA, 20___.

Dated this 14 day of October, 2021.

STATE OF COLORADO)
) S.S.
COUNTY OF EL PASO)

The foregoing certification was acknowledged before me this 14 day of October, 2021, by J. Brooks Swenson.

Witness my hand and official seal.

My Commission Expires: 6/17/2022

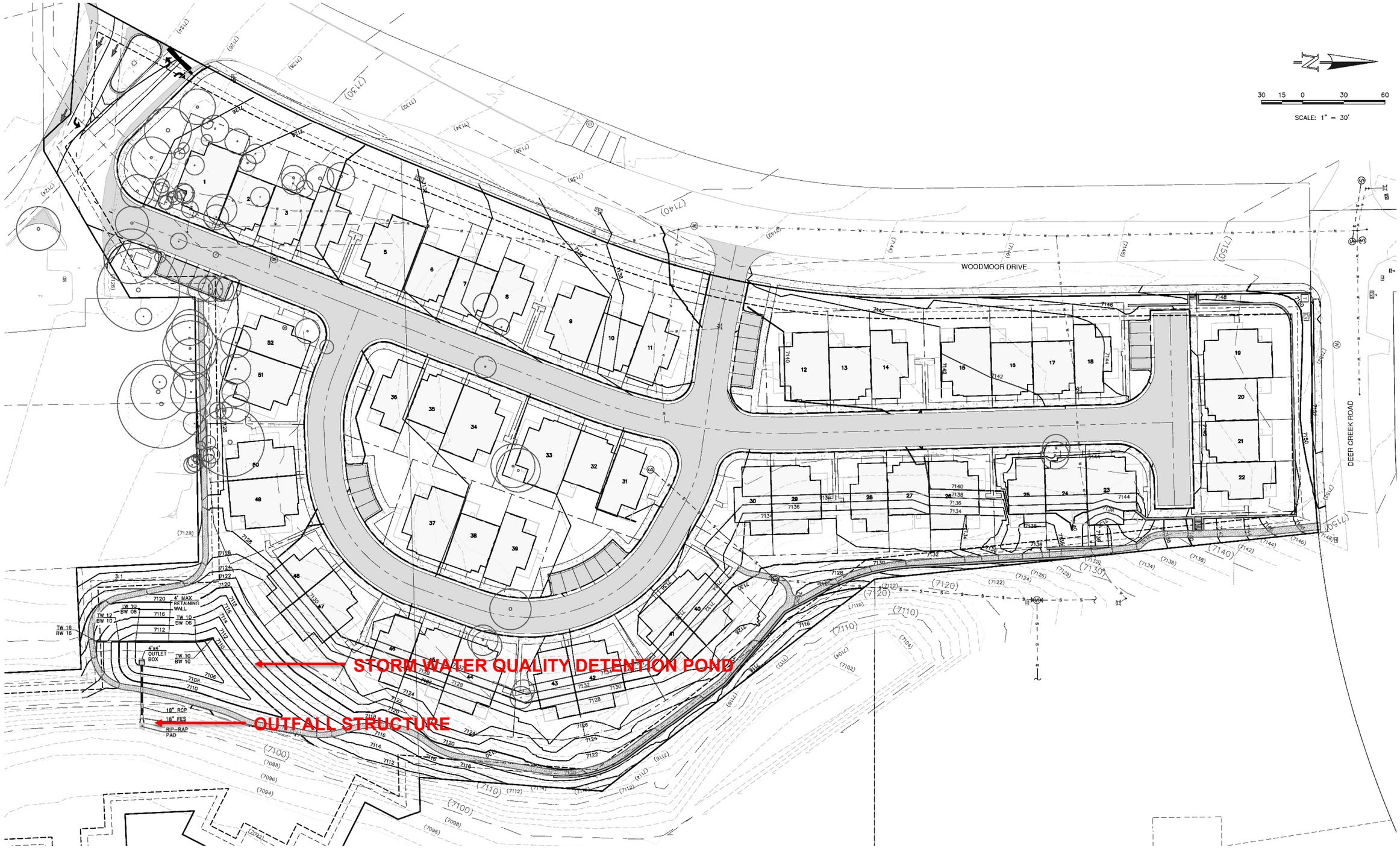
CAROL E SMITH
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 19874188481
MY COMMISSION EXPIRES JUNE 17, 2022

Carol E. Smith

Notary Public

APPENDIX F

SITE PLAN



Source: NES and Classic Consulting and Engineers and Surveyors, dated 5/18/2022