



Consultants in Natural Resources and the Environment

Natural Resources Assessment I-25 Erie Gateway – South PD District Erie, Weld County, Colorado

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Executive Summary

Torti Gallas + Partners (TG+P), on behalf of the town of Erie, Colorado (Town), retained ERO Resources Corporation (ERO) to provide a natural resources assessment for the I-25 Erie Gateway South PD District in Erie, Weld County, Colorado (project area). ERO assessed the project area for potential wetlands and other waters of the U.S., federally listed threatened and endangered species habitat, and general wildlife use. Below is a summary of the resources found at the project area and recommendations or future actions necessary based on the current site conditions and federal, state, and local regulations.

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

Wetlands and Other Waters of the U.S. – Two unnamed drainages (Drainage 1 and Drainage 2), one wetland (Wetland 1), one named irrigation ditch (Community Ditch), and several irrigation laterals occur in the project area. If any work is planned in these features located in the project area, a jurisdictional determination should be requested from the U.S. Army Corps of Engineers (Corps). If these areas are considered jurisdictional and work is planned in any of these areas, a Section 404 permit would be required from the Corps for the placement of dredged or fill material in wetlands or below the ordinary high water mark. If no work is planned in any of these areas, no Corps action is necessary.

Threatened and Endangered Species – The project area does not contain habitat for any federally listed threatened or endangered species. A viable population of Preble's meadow jumping mouse (Preble's) is unlikely to exist in the project area because the project area lacks suitable habitat, is fragmented from known occupied habitat, and has been extensively disturbed by human activity. The project area is not conducive to the establishment of Ute ladies'-tresses orchid (ULTO) because no suitable wetland habitat occurs in the project area and project area consists primarily of disturbed uplands dominated by introduced understory species. If any of the drainages would be impacted by project activities, ERO recommends submitting a habitat assessment to the U.S. Fish and Wildlife Service (Service) requesting confirmation the project area lacks habitat for Preble's and/or ULTO and a presence/absence survey would not be required.

State Threatened and Endangered Species and State Species of Special Concern — The project area contains habitat for black-tailed prairie dog, little brown myotis, olive-backed pocket mouse, bald eagle, golden eagle, western burrowing owl, common gartersnake, and northern leopard frog. However, due to the low quality of potential habitat and existing disturbance in the project area, it is unlikely to support many of these species and impacts are not anticipated by the project or the species is further discussed below.

Prairie Dogs – The project area contains active and inactive black-tailed prairie dog burrows. If prairie dog removal becomes necessary, ***Colorado Parks and Wildlife (CPW) recommends removing them in a humane manner before any earthwork or construction takes place.*** Currently, the Town and Weld County do not have any regulations or policies pertaining to prairie dogs.

Burrowing Owls – Burrowing owls could be impacted by the project if work would occur within the CPW-recommended ½-mile (660-foot) buffer of any prairie dog burrow (Colorado Parks and Wildlife

2020a). ***If work would occur within the recommended buffer of any burrow during the March through October breeding season, a burrowing owl survey should be conducted.*** If owls are present in the project area, activities should be restricted within 660 feet of nest burrows until the owls have migrated from the site, which can be determined through monitoring.

Migratory Birds – Migratory birds, including raptors, and any active nests are protected under the Migratory Bird Treaty Act. ERO observed five raptor nests in the project area vicinity during the 2023 site visits. Several of these nests could be impacted by development activities if there would be human encroachment activities or a physical object or structure is proposed within the CPW-recommended species-specific buffer ($\frac{1}{2}$ mile of active red-tailed hawk nests from February 15 through July 15, but there is no established CPW buffer for active great horned owl nests) permanently or for a significant amount of time (CPW 2020).

The best way to avoid impacting migratory birds is to conduct ground-clearing activities and construction activities during the nonnesting season. The Eastern Colorado Field Office of the Service (U.S. Fish and Wildlife Service 2009) and Colorado Department of Transportation (Colorado Department of Transportation 2011) have identified the primary nesting season for migratory birds in eastern Colorado as occurring from April 1 to August 31. However, some birds (e.g., eagles, owls and red-tailed hawks) can nest as early as February or March. Because of variability in the breeding seasons of various bird species, additional nest surveys during the nesting season may also be warranted. ***ERO recommends a nest survey be conducted within one week prior to construction*** to determine if any active nests are present in or near the project area so they can be avoided. If active nests are found, any work that would destroy the nests should not be conducted until the birds have vacated the nests. If possible, ground-clearing activities should occur outside of the migratory bird breeding season, generally April 1 through August 31.

Bald and Golden Eagles – The project area is located on the edge of CPW-mapped bald eagle winter range and in mapped golden eagle breeding range (Colorado Parks and Wildlife 2021b). CPW has no established seasonal restrictions or recommended buffers for bald eagle winter range, and no eagle nests were found in or adjacent to the project area.

Other Wildlife – The project area occurs in mule deer overall range and in a mule deer limited use area; in a hydrologic unit with the mapped presence of Iowa darter, stonecat, and orangespotted sunfish; and in the mapped overall range for big brown bat, hoary bat, little brown myotis, long-eared myotis, red-bat, silver-haired bat, and tri-colored bat (Colorado Parks and Wildlife 2021b). No CPW-mapped high priority habitats (Colorado Parks and Wildlife 2021c) or other sensitive species habitat occurs in the project area that would be significantly adversely affected by the proposed project. Overall, surrounding and continuing development contributes to a decline in the number and diversity of wildlife species nearby and to a change in species composition.

Natural Resources Assessment

I-25 Erie Gateway – South PD District

Erie, Weld County, Colorado

May 24, 2023

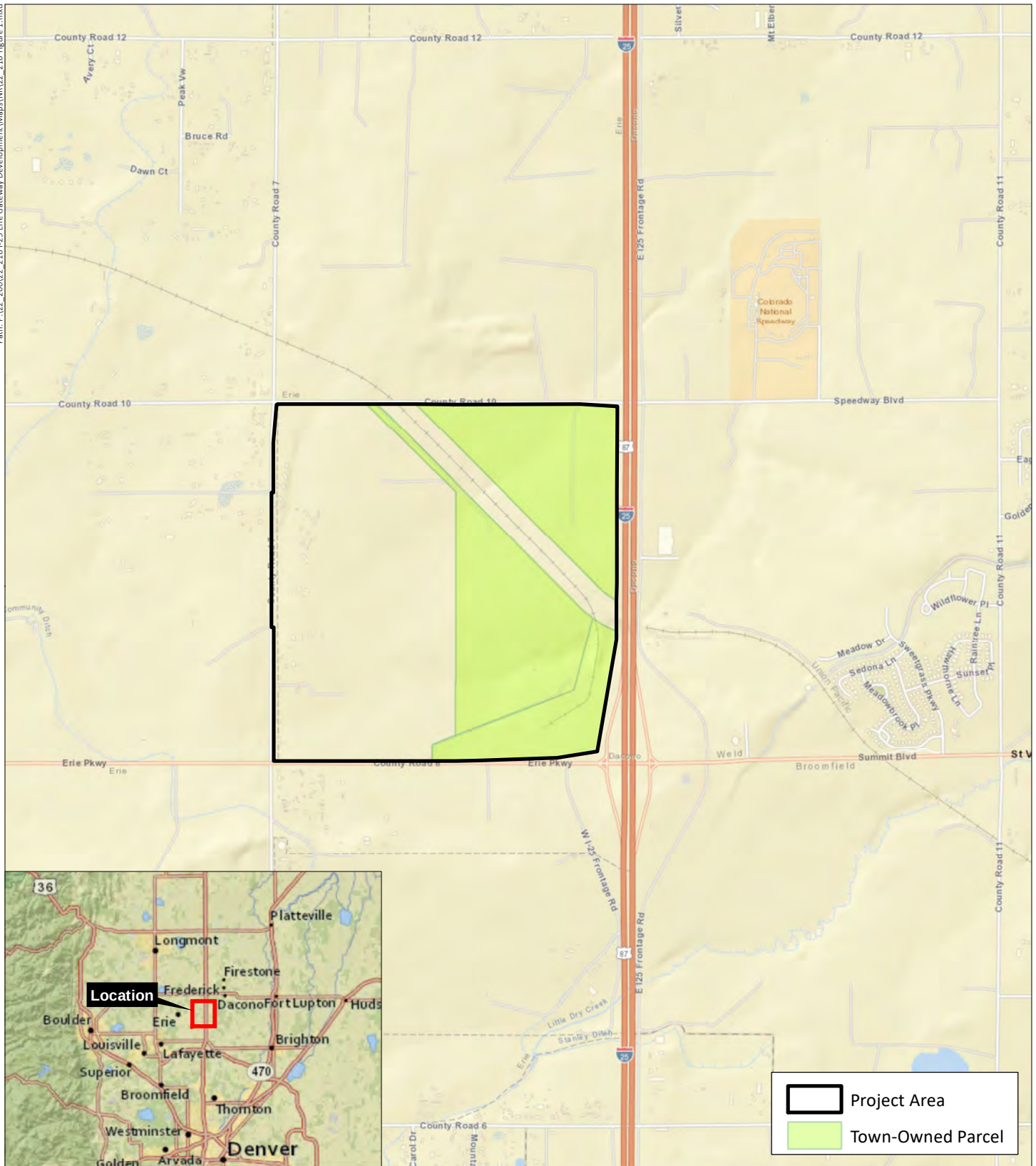
Introduction

Torti Gallas + Partners (TG+P), on behalf of the town of Erie, Colorado (Town), retained ERO Resources Corporation (ERO) to provide a natural resources assessment for the I-25 Erie Gateway South PD District in Erie, Weld County, Colorado (project area; Figure 1). On April 3, 2023, Heidi Gerstung and Jeff Birek, biologists with ERO, assessed the project area for natural resources; and on April 24, 2023, Heidi Gerstung returned to additionally review and document conditions in the project area (2023 site visits). During these assessments, activities included a review of potential wetlands and other waters of the U.S. (WOTUS), identification of suitable habitat for federally threatened and endangered species, and identification of other natural resources. Due to private property inholdings in the project area and lack of permission to access areas outside of the Town-Owned Parcels (Figure 1), the entirety of the project area was not reviewed ‘on the ground’ and had to be remotely viewed from the Town-Owned Parcels or from public roads.

This report provides information on existing site conditions and resources, as well as current regulatory guidelines related to those resources. ERO assumes the landowner is responsible for obtaining all federal, state, and local permits for construction of the project. The natural resources and associated regulations described in this report are valid as of the date of this report and may be relied upon for the specific use for which it was prepared by ERO under contract to TG+P. Because of their dynamic natures, site conditions and regulations should be reconfirmed by a qualified consultant before relying on this report for a use other than that for which ERO was contracted.

Project Location

The project area is in Section 15, Township 1 North, Range 68 West of the 6th Principal Meridian in Erie, Weld County, Colorado (Figure 1). The UTM coordinates of the approximate center of the project area are 500830mE, 4433447mN of NAD 83 Zone 13N. The longitude/latitude of the project area is 104.990274W/40.051259°N. The elevation of the project area ranges from 5,200 to 5,070 feet above sea level. Photo points of the project area are shown on Figure 2, and the photo log is in Appendix A.



I-25 Erie Gateway – South PD District

Section 15, T1N, R68W; 6th PM

UTM NAD 83: Zone 13N; 500830mE, 4433447mN

Longitude 104.990274°W, Latitude 40.051259°N

USGS Frederick, CO Quadrangle

Weld County, Colorado

Figure 1
Vicinity Map

Prepared for: Torti Gallas + Partners
File: 22_216 Figure 1.mxd (GS)
May 9, 2023

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I-25 Erie Gateway – South PD District

- Data Point
- Culvert
- ➔ Photo Point
- Wetland (0.092 ac)
- Ordinary High Water Mark (0.129 ac)
- Lateral Ditch
- Town-Owned Parcel
- Project Area Boundary

Image Source: Maxar Technologies©, April 22, 2022

0 400 800 Feet



Figure 2
Existing Conditions

Prepared for: Torti Gallas + Partners
File: 22_216 Figure 2.mxd (GS)
May 12, 2023

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Regulatory Framework

Development in the project area may be affected by several federal and state environmental regulations. One of the goals of this document is to provide information to assist TG+P and the Town in addressing regulatory compliance issues. The environmental regulations most pertinent to the proposed development are described below.

Federal, State, and Local Regulations

Endangered Species Act

Federally threatened and endangered species are protected under the Endangered Species Act of 1973, as amended (ESA) (16 United States Code (U.S.C.) 1531 et seq.). Significant adverse effects on a federally listed species or its habitat require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 or 10 of the ESA. No regulations require consultations for effects on candidate species; however, if a species were to become listed during project planning or construction, consultation with the Service would be required. Findings regarding federally threatened and endangered species are addressed in the *Federally Threatened, Endangered, and Candidate Species* section of this report.

Migratory Bird Treaty Act

Migratory birds, including raptors, and any active nests are protected under the Migratory Bird Treaty Act (MBTA). Removal of active nests that results in the loss of eggs or young is prohibited under the MBTA. In Colorado, most birds (except grouse species and nonnative Eurasian collared dove, European starling, house sparrow, and rock pigeon) are protected under the MBTA (§§ 703-712). Even species that tend to be present throughout the year, such as magpie and great horned owl, are protected under the MBTA. All nests are protected, including cavity (e.g., flicker), ground (e.g., killdeer), and subterranean (e.g., burrowing owl) nests. The MBTA does not contain any prohibition that applies to the destruction of a bird nest alone (without birds or eggs), provided that no possession occurs during the destruction. Findings regarding migratory birds are addressed in the *Raptors and Migratory Birds* section of this report.

Colorado State Statute 33

As directed by Colorado State Statute 33 (State Statute 33; Colorado Revised Statutes Ann. §§33-2 to 102-106), the Colorado Wildlife Commission issues regulations and develops management programs implemented by Colorado Parks and Wildlife (CPW) for wildlife species not federally listed as threatened or endangered. This includes maintaining a list of state threatened and endangered species. CPW also maintains a list of species of concern, but these species are not protected under State Statute 33. Although State Statute 33 prohibits the take, possession, and sale of state-listed species, it does not include protection of their habitat. Findings regarding state threatened and endangered species and other wildlife species are addressed in the *State Threatened and Endangered Species and Species of Special Concern* and *Other Species of Concern* sections of this report.

Town of Erie Wildlife Protection Policies

The current Town municipal code was enacted in January 2023 (Town of Erie, Colorado 2023). As part of the code, the Town has established guidance, goals, and policies to prioritize and protect the natural environment. Recommendations on compliance with the Town's environment and natural resources goals are provided in the *Post-Construction Habitat Recommendations* section of this report.

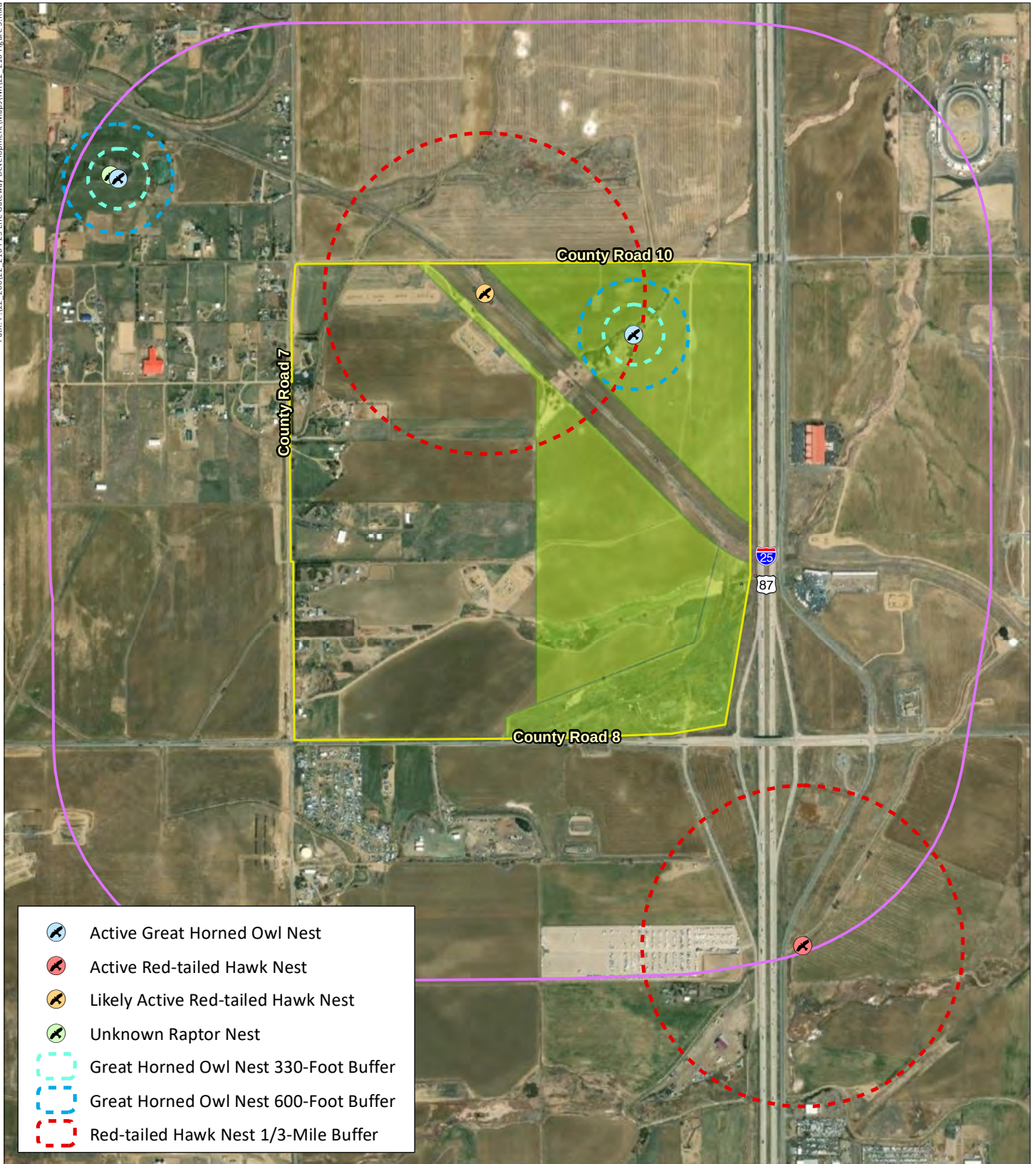
Methods

ERO conducted a natural resource assessment of the project area to identify natural and wildlife resources that may be impacted by development of the project area. In addition to the information gathered during the 2023 site visits, wildlife and natural resource information was obtained from existing sources such as aerial photography (Google, Inc. 2023), CPW's Species Activity Data (CPW 2021a), and the Service and Colorado Conservation Data Explorer (U.S. Fish and Wildlife Service 2023a; Colorado Natural Heritage Program 2023). Based on the information gathered from existing sources and the 2023 site visits, ERO identified existing vegetation communities and important wildlife attributes of the project area both within the project area boundaries and in a regional context.

Project Area Description

The U.S. Department of Agriculture (USDA) has mapped the project area within the southern part of the Central High Plains Major Land Resource Area, which is mainly characterized by farms and ranches (U.S. Department of Agriculture, Natural Resources Conservation Service 2006). The climate of the area is typical of midcontinental semiarid temperate zones with an average annual precipitation between 12.7 and 16.7 inches (USDA, NRCS 2006). The topography of the project area is generally flat, but gently slopes into tapered drainage basins. The National Land Cover Database maps one primary land cover type in the project area - cultivated crops - with some minor elements of grassland/herbaceous, emergent herbaceous wetlands, woody wetlands, developed (medium density), and developed (low density) also mapped (U.S. Geological Survey 2016).

The I-25 Erie Gateway South PD District project area consists of approximately 623 acres (0.97 square mile) of land, bounded by Interstate 25 (I-25) on the east, Weld County Road (WCR) 8/Erie Parkway on the south, WCR 7 on the west, and WCR 10 on the north (Figure 1). The project area is bounded by I-25 on the east, WCR 8 on the south, WCR 7 on the west, and WCR 10 on the north (Figure 2). In addition to the three Town-Owned Parcels (Figure 1, Figure 2, and Figure 3), the I-25 Erie Gateway South PD District project area includes 15 privately owned parcels including an RTD-owned parcel with abandoned railroad grade and an oil and gas company-owned parcel with active production facilities. The project area consists of land that is currently or has been previously disturbed by various human activities including agriculture, mining, oil and gas development, railroads, housing, and ranching.



I-25 Erie Gateway – South PD District

- 1/2-Mile Nest Survey Buffer
- Project Area Boundary
- Town-Owned Parcel

0 750 1,500
Feet



Figure 3 Raptor Survey

Image Source: Maxar Technologies©, April 22, 2022

Prepared for: Torti Gallas + Partners
File: 22_216 Figure 3.mxd (GS)
May 9, 2023

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ERO Resources Corp.

The vegetation in many parts of the project area is generally sparse or weedy because of the high levels of previous disturbance and because the agricultural fields were not under cultivation at the time of the 2023 site visits (Photos 1 and 2). Within the disturbed uplands, the vegetation, where present, is dominated by nonnative species including kochia (*Bassia scoparia*), smooth brome (*Bromus inermis*), and cheatgrass (*Bromus tectorum*) with some common burdock (*Arctium minus*), showy milkweed (*Asclepias speciosa*), diffuse knapweed (*Centaurea diffusa*), Canada thistle (*Cirsium arvense*), curlytop gum weed (*Grindelia squarrosa*), common sunflower (*Helianthus annuus*), prickly lettuce (*Lactuca serriola*), evening primrose (*Oenothera biennis*), Scotch thistle (*Onopordum acanthium*), curly dock (*Rumex crispus*), sand dropseed (*Sporobolus cryptandrus*), and common mullein (*Verbascum thapsus*). A few scattered plains cottonwood (*Populus deltoides monilifera*) trees, sandbar willow (*Salix exigua*), and red osier dogwood (*Cornus sericea*) shrubs also occur along edges of the predominantly fallow agricultural fields in the project area (Photo 3). Trees and shrubs are more abundant in the private parcels located along WCR 7 and western project area boundary, and along the mesic riparian corridor in the northeastern portion of the project area (Photos 3 through 5). Additional tree species observed in these areas included red maple (*Acer rubrum*), silver maple (*Acer saccharinum*), common hackberry (*Celtis occidentalis*), Russian olive (*Elaeagnus angustifolia*), green ash (*Fraxinus pennsylvanica*), common honey locust (*Gleditsia triacanthos*), common juniper (*Juniperus communis*), and apple (*Malus* spp.). The mesic riparian corridor and wetland in the project area has vegetation dominated by cattails (*Typha* spp.), reed canarygrass (*Phalaris arundinacea*), sandbar willow, smooth brome, plains cottonwood, and crack willow (*Salix fragilis*) (Photos 3 through 8).

Two unnamed drainages (Drainage 1 and Drainage 2), one named ditch (Community Ditch), and several lateral ditches occur in the project area (Figure 2). Drainage 1 consists of a mesic upland riparian corridor with no evidence of recent flows or wetlands (Photos 3 through 5). Drainage 2 consists predominantly of disturbed uplands and becomes a defined channel with wetlands near the eastern project area boundary (Photos 6 through 8) (Figure 2). Both drainages lead to culverts that exit the project area to the north and east. Community Ditch occurs in the northwestern portion of the project and consists of an approximately 2- to 3-foot-wide channel with wetland vegetation along its banks (Photo 9; Figure 2).

Active and inactive black-tailed prairie dog (*Cynomys ludovicianus*) burrows occur in the southeastern (Photo 1) and northwestern portions of the project area (Figure 2). Five raptor nests and several dilapidated nests, including one active great-horned owl nest and one possible red-tailed hawk nest, were observed in the project area vicinity during the 2023 site visits (Photos 10 and 11, respectively; Figure 2).

Wetlands and Waters of the U.S.

Background

The Clean Water Act (CWA) protects the chemical, physical, and biological quality of WOTUS. The U.S. Army Corps of Engineers' (Corps) Regulatory Program administers and enforces Section 404 of the CWA.

Under Section 404, a Corps permit is required for the discharge of dredged or fill material into wetlands and other WOTUS (streams, ponds, and other waterbodies). On June 22, 2020, the Environmental Protection Agency (EPA) and Corps' Navigable Waters Protection Rule (NWPR) (U.S. Environmental Protection Agency 2020) to define "waters of the United States" became effective in 49 states and in all U.S. territories. A preliminary injunction was granted for Colorado. On March 2, 2021, the United States Court of Appeals for the 10th Circuit vacated the stay on the NWPR in Colorado, thereby ruling the NWPR effective in Colorado. After April 23, 2021, jurisdiction of wetlands and other potential WOTUS in Colorado was to be determined using the NWPR. However, on August 30, 2021, the Arizona District Court remanded and vacated the NWPR. In response, the EPA and Corps have halted implementation of the NWPR and, until further notice, are interpreting WOTUS consistent with the pre-2015 regulatory regime (also referred to as the "Rapanos" guidelines). On January 18, 2023, the EPA and Corps published a final rule to define WOTUS (new rule). The new rule codified the pre-2015 approach to WOTUS, with some changes to the definition of "adjacency" and "significantly affect" that could expand jurisdiction of certain streams or wetlands. The new rule went into effect on March 20, 2023; however, there is a strong potential it will be challenged in court, affecting its implementation. As such, the identification of WOTUS in this report follows the Rapanos guidelines. Potential rulings and guidance in the future could change the results of this report regarding the jurisdictional status of waters and wetlands in the project area. While ERO may provide its opinion on the likely jurisdictional status of wetlands and waters, the Corps will make the final determination of jurisdiction based on the current rulings.

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

Methods

Wetland Delineation

During the 2023 site visits, ERO surveyed the project area for wetlands, streambeds, and open waters; and a wetland delineation following Corps guidelines was conducted. Prior to the 2023 site visits, ERO reviewed U.S. Geological Survey (USGS) quadrangle topographic maps and aerial photography to identify mapped streams and areas of open water that could indicate wetlands or WOTUS.

ERO conducted the wetland delineation following the methods for routine on-site wetland determinations as described in the 1987 *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and used methods in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)* (U.S. Army Corps of Engineers 2010) to determine wetland boundaries. The Corps defines wetlands as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under

normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas” (33 Code of Federal Regulations (CFR) 328.2(c)). Wetland boundaries were determined by a visible change in vegetation community, soils, topographic changes, and other visible distinctions between wetlands and uplands.

The wetland indicator status of plant species was identified using the *National Wetland Plant List* (U.S. Army Corps of Engineers 2020), taxonomy was determined using *Flora of Colorado* (Ackerfield 2015), and nomenclature was determined using the *PLANTS Database* (U.S. Department of Agriculture, Natural Resources Conservation Service 2023a).

Intermittent, ephemeral, and perennial drainages with characteristics of a defined streambed, streambank, ordinary high water mark (OHWM), and other erosional features also were identified. The OHWM identifies the lateral jurisdictional limits of nonwetland WOTUS. Federal jurisdiction over nonwetland WOTUS extends to the OHWM, defined in 33 CFR 328.3 as “the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.” The Corps defines “stream bed” as “the substrate of the stream channel between the OHWMs. The substrate may be bedrock or inorganic particles that range in size from clay to boulders.”

Natural hydrology was established for potential WOTUS consistent with the criteria under the NWPR and pre-2015 rules, including that a surface water connection is present in a typical year and not only in response to storm events. Artificial hydrology including ditches, drains, and other constructed drainage features are excluded from qualifying hydrology under the NWPR.

The boundaries of identified wetlands and other characteristics of potential WOTUS were mapped using a Trimble Global Positioning System (GPS) unit. Data were differentially corrected using the CompassCom base station. All differential correction was completed using Trimble Pathfinder Office 5.9 software. GPS data were incorporated using ESRI® ArcGIS Desktop software. Additionally, where appropriate, wetlands were drawn on georectified aerials and then digitized.

Wetland Classification

Delineated wetlands were classified according to the Service’s Cowardin classification system (Cowardin et al. 1979) combined with a hydrogeomorphic (HGM) approach (Brinson 1993). The HGM approach assesses the chemical, physical, and biological functions of wetlands based on their geomorphic setting, water source, and hydrodynamics. HGM classes found in Colorado are mineral soil flats, organic soil flats, riverine, lacustrine fringe, slope, and depressional. The Cowardin classification uses a hierarchical structure of systems, subsystems, and classes to classify both wetlands and deepwater habitats.

Wetlands with persistent or nonpersistent vegetation are classified in the Cowardin system as palustrine, which typically includes wetlands referred to as marshes, fens, wet meadows, and sloughs. The palustrine system also includes small, shallow, permanent, or intermittent water bodies such as

ponds. Palustrine wetlands may be situated shoreward of lakes and river channels, on river floodplains, in isolated catchments, or on slopes (Cowardin et al. 1979). Under the palustrine system, wetlands are classified as emergent (erect, rooted, herbaceous, and usually perennial hydrophytes that remain standing until at least the next growing season); scrub-shrub (woody vegetation less than 20 feet tall); or forested (woody vegetation 20 feet or taller). In wetlands where more than one wetland type occurs, the wetland type of the largest area is used. For example, an area that is predominantly palustrine emergent (PEM) wetlands but also contains a small amount of palustrine scrub-shrub wetlands would be categorized as PEM wetlands. Because of the limited occurrence of the smaller wetland types in the larger wetland polygons, these areas were not separated within the delineated polygons.

The Cowardin riverine system includes wetlands and deepwater habitats contained within a channel, except wetlands dominated by trees, shrubs, and emergent vegetation. The riverine system usually contains flowing water and is bounded on the landward side by uplands, channel banks, or other wetlands. Within the riverine system, wetlands are divided into the tidal, lower perennial (low gradient and slow water), upper perennial (high gradient and fast water), and intermittent subsystems. Within these subsystems, riverine wetlands are further classified as unconsolidated bottom, aquatic bed, streambed, rocky shore, unconsolidated shore, and emergent wetland (nonpersistent).

During the wetland delineation, ERO classified the wetlands as PEM. Drainages were classified as intermittent.

Description of Wetlands and Other Waters

ERO assessed the project area for wetlands and other waters as described below. Data were collected from various locations in the project area to document the characteristics of uplands, wetlands, and the transition areas between them. Each data point (DP) was given a label that corresponds to a location shown on Figure 2 and routine wetland determination forms in Appendix B. Approximately 0.026 acre of OHWM and 0.092 acre of wetlands occur in the Town-Owned Parcels of the project area. The following sections contain information on potential surface water connections of wetlands and other waters. Table 1 provides a summary of the mapped areas, including the Cowardin classification and HGM class for each wetland in the project area.

Table 1. Wetland area, Cowardin classification, and HGM.

Water/ Wetland ID	Latitude	Longitude	Feature Size (acre)	Cowardin Classification	HGM
OHW 1	40.055185	-104.986410	0.007	Riverine-Intermittent	Riverine-Intermittent
OHW 2	40.055816	-104.985716	0.003	Riverine-Intermittent	Riverine-Intermittent
OHW 3	40.056293	-104.985369	0.001	Riverine-Intermittent	Riverine-Intermittent
OHW 4	40.057094	-104.984525	0.006	Riverine-Intermittent	Riverine-Intermittent
OHW 5	40.057579	-104.984211	0.002	Riverine-Intermittent	Riverine-Intermittent
OHW 6	40.048665	-104.981859	0.002	Riverine-Intermittent	Riverine-Intermittent
OHW 7	40.048760	-104.981090	0.004	Riverine-Intermittent	Riverine-Intermittent
OHW 8	40.047501	-104.986410	0.001	Riverine-Intermittent	Riverine-Intermittent
Open Water Total			0.026		
Wetland 1	40.048728	-104.981522	0.092	PEM	Riverine
Wetland Total					

PEM = palustrine emergent.

Drainage 1 (OHWM 1 through OHWM 5)

Drainage 1 (OHWM 1 through OHWM 5) occurs in the northeast portion of the project area south of WCR 10 (Figure 2; Photos 3 through 5). Drainage 1 is shown on the National Hydrography Dataset (NHD) and the USGS Erie topographic map as a perennial stream (U.S. Geological Survey 2023). Additionally, the National Wetland Inventory (NWI) maps freshwater emergent wetland, forested/shrub wetland, and riverine habitat along Drainage 1 (U.S. Fish and Wildlife Service 2023b).

During the 2023 site visits, Drainage 1 consisted of a mesic riparian corridor with an intermittent OHWM (OHWM 1 through OHWM 5) (Figure 2; Photos 3 through 5). No open water or wetlands were observed in Drainage 1 during the 2023 site visits, as detailed below. Drainage 1 appears to receive water as overland flow runoff from the nearby agricultural fields to the west. Based on the 2023 site visits, Drainage 1 does not maintain a relatively permanent flow and does not appear to have a downstream surface connection to a known WOTUS. ERO believes OHWM 1 through OHWM 5 would be considered nonjurisdictional. Delineation data collected along DPs taken in Drainage 1 (DP5 through DP8) is described in more detail below.

Vegetation

Drainage 1 consists of a mesic riparian corridor dominated by wetland vegetation but lacked wetland soils and/or wetland hydrology during the 2023 site visits. Vegetation along Drainage 1 was dominated by dead broadleaf cattail (*Typha latifolia* - obligate), narrowleaf cattail (*Typha angustifolia* - obligate), plains cottonwood (facultative wetland), crack willow (facultative), sandbar willow (facultative wetland), and smooth brome (upland) (DP5, DP6, DP7, and DP8). The vegetation at DP5, DP7, and DP8 met the rapid test for hydrophytic vegetation. At DP6, vegetation met the dominance test for hydrophytic vegetation.

Soils

The NRCS mapped the soils along Drainage 1 as Ulm clay loam, 3 to 5 percent slopes (U.S. Department of Agriculture, Natural Resources Conservation Service 2023b). Field observations revealed that the soil primarily consisted of silty clay. At DP5, the soils contained a matrix color of 10YR 4/2 within 13 inches

of the soil surface with no redox concentrations observed. At DP6, the soils contained a matrix color of 7.5YR 3/2 from 0 to 9 inches of the soil surface with no redox concentrations observed and a matrix color of 7.5YR 4/3 from 9 to 14 inches with a redox concentration of 1 percent 7.5YR 3/4 in the matrix. At DP7, the soils contained a matrix color of 10YR 3/3 from 0 to 9 inches of the soil surface with no redox concentrations observed and a matrix color of 10YR 4/3 from 9 to 14 inches with a redox concentration of 5 percent 10YR 3/4 in the pore linings. At DP8, the soils contained a matrix color of 10YR 3/3 from 0 to 5 inches of the soil surface with no redox concentrations observed, a matrix color of 10YR 3/3 from 5 to 11 inches with a redox concentration of 5 percent 10YR 3/4 in the matrix, and a matrix color of 10YR 4/3 from 11 to 15 inches with a redox concentration of 20 percent 10YR 4/4 in the matrix. DP5, DP6, DP7, and DP8 did not meet any indicators for hydrophytic soils.

Hydrology

Hydrology indicators were observed at DP5, DP7, and DP8. At DP5 and DP7, no primary hydrology indicators were observed, but secondary indicators of wetland hydrology included geomorphic position and a successful FAC-neutral test. At DP8, no primary hydrology indicators were observed and only one secondary indicator of wetland hydrology (a successful FAC-neutral test) was observed. No primary or secondary hydrology indicators were observed at DP6.

Drainage 2 (OHWM 6 through OHWM 8 and Wetland 1)

Drainage 2 (OHWM 6 through OHWM 8 and Wetland 1) occurs in the southeastern portion of the project area (Figure 2; Photos 6 through 8). Drainage 2 is shown on the NHD and the USGS Erie topographic map as an intermittent stream (U.S. Geological Survey 2023). Additionally, the NWI maps a freshwater emergent wetland along Drainage 2 (U.S. Fish and Wildlife Service 2023b).

During the 2023 site visits, Drainage 2 consisted primarily of a disturbed upland swale with some areas of wetland (Wetland 1), open water (OHWM 6), and OHWM (OHWM 7) in the eastern portion along a constructed drainageway, and an isolated OHWM (OHWM 8) in the western portion of the drainage swale (Figure 2; Photos 6 through 8). Drainage 2 appears to receive water as overland flow runoff from the nearby agricultural lands to the west and may have additional wetland and other water features located in the project area that occur outside of the Town-Owned Parcels, which could not be observed in the field due to the lack of landowner permission to access. Based on the 2023 site visits, portions of Drainage 2 (OHWM 6 and OHWM 7) may maintain a relatively permanent flow; however, based on review of aerial imagery, it is unclear if these features have downstream surface connections to known WOTUS. ERO believes some features of Drainage 2 may be considered nonjurisdictional, including OHWM 8. Delineation data collected along DPs taken along Drainage 2 (DP1 through DP4) is described in more detail below.

Vegetation

Drainage 2 consists primarily of a disturbed upland swale with some wetlands and open water along a constructed channel. Vegetation along Drainage 2 was dominated by narrowleaf cattail (obligate), kochia (facultative upland), reed canarygrass (facultative wetland), sandbar willow (facultative wetland), and smooth brome (upland) (DP1, DP2, DP3, and DP4). The vegetation at DP1 and DP3 met the rapid

test for hydrophytic vegetation. At DP4, vegetation met the prevalence test for hydrophytic vegetation. Hydrophytic vegetation was not observed at the upland paired plot DP2.

Soils

The NRCS mapped the soils along Drainage 2 as Ulm clay loam, 3 to 5 percent slopes and Renohill clay loam, 3 to 9 percent slopes (U.S. Department of Agriculture, Natural Resources Conservation Service 2023b). Field observations revealed that the soil primarily consisted of silty clay and clay loam. At DP1, the soil was assumed hydric and not sampled due to the presence of obligate wetland dominant vegetation, surface hydrology, and a distinct wetland-upland boundary. At DP2, the soil was not sampled due to upland vegetation and lack of hydrology. At DP3, the soils contained a matrix color of 10YR 2/2 from 0 to 2 inches of the soil surface with no redox concentrations observed and a matrix color of 10YR 4/3 from 2 to 8.5 inches with a redox concentration of 5 percent 7.5YR 3/4 in the matrix and pore lines. From 8.5 inches to 14 inches, soil at DP3 had a mixed matrix of 20 percent 10YR 4/3 and a redox concentration of 10 percent 7.5YR 2.5/3 in the matrix and 40 percent matrix color of 10YR 3/2 with redox concentrations of 20 percent Gley1 2.5/N and 10 percent 7.5YR 2.5/3. At DP4, the soils contained a matrix color of 10YR 3/2 from 0 to 2 inches of the soil surface with no redox concentrations observed and a matrix color of 10YR 3/3 from 2 to 10 inches of the soil surface with no redox concentrations observed. Soils at DP3 and DP4 did not meet any indicators for hydrophytic soils.

Hydrology

Hydrology indicators were observed at DP1, DP3, and DP4. At DP1, primary hydrology indicators observed were saturation and salt crust, and the secondary indicators of wetland hydrology observed included geomorphic position and a successful FAC-neutral test. At DP3, a primary hydrology indicator observed was saturation, and secondary indicators of wetland hydrology observed included geomorphic position and a successful FAC-neutral test. No primary or secondary hydrology indicators were observed at DP2 or DP4.

Jurisdictional Assessment

To assist the Corps in making a preliminary jurisdictional determination, ERO reviewed the proximity and potential surface water connection of wetlands to known jurisdictional WOTUS using aerial photo interpretation and information from the wetland delineation. This information is accurate as of the date of this report and may change if further guidance documentation is issued.

Drainage 1 lacks a relatively permanent flow and does not appear to have a continuous surface connection to downstream water due to dryland breaks. An occasional OHWM (OHWM 1 through OHWM 5) that ranged from 0.5 to 2 feet wide was found along Drainage 1 in the northeast portion of the project area (Figure 2; Photo 3). For these reasons, ERO believes Drainage 1 (OHWM 1 through OHWM 5) would likely be determined nonjurisdictional by the Corps.

Portions of Drainage 2 appeared to have relatively permanent flow but may not have a continuous surface connection to downstream water. An isolated OHWM (OHWM 8) was also found along Drainage

2 in the central portion of the project area (Figure 2; Photo 8). Based on the 2023 site visits, portions of Drainage 2 (OHWM 6, OHWM 7, and Wetland 1) may be determined jurisdictional by the Corps.

Recommendations

If Drainage 1 or 2 (OHWM 1 through OHWM 8) or their abutting wetlands (Wetland 1) are considered jurisdictional and work is planned in these areas, a Section 404 permit would be required for the placement of dredged or fill material below the OHWM. If either of the drainages are determined nonjurisdictional, or if no work is planned in either of these areas, no action would be necessary.

Federally Threatened, Endangered, and Candidate Species

ERO assessed the project area for habitat for federally threatened, endangered, and candidate species under the ESA. Federally threatened and endangered species are protected under the ESA of 1973, as amended (16 U.S.C. 1531 et seq.). Significant adverse effects on a federally listed species or its habitat require consultation with the Service under Section 7 or 10 of the ESA. The Service's Information for Planning and Consultation (IPaC) resource list for the project area identifies several threatened and endangered species that could be potentially affected by the project (Table 2) (U.S. Fish and Wildlife Service 2023a).

Table 2. Federally threatened, endangered, and candidate species potentially found in the project area or potentially affected by the project.

Common Name	Scientific Name	Status*	Habitat	Habitat Present or Potential to be Affected by Project?
Mammals				
Gray wolf	<i>Canis lupus</i>	T	Temperate forests, mountains, tundra, taiga, grasslands, and deserts	No
Preble's meadow jumping mouse (Preble's)	<i>Zapus hudsonius preblei</i>	T	Shrub riparian/wet meadows	Low quality habitat present, not likely to affect
Birds				
Eastern black rail	<i>Laterallus jamaicensis ssp. Jamaicensis</i>	T	Shallow cattail wetlands and wet sedge meadows with dense cover in the Arkansas River drainage in southeastern Colorado and the Republican River in east-central Colorado	No
Piping plover**	<i>Charadrius melodus</i>	T	Sandy lakeshore beaches and river sandbars	No habitat and no depletions anticipated
Whooping crane**	<i>Grus americana</i>	E	Mudflats around reservoirs and in agricultural areas	No habitat and no depletions anticipated
Fish				
Pallid sturgeon**	<i>Scaphirhynchus albus</i>	E	Large, turbid, free-flowing rivers with a strong current and gravel or sandy substrate	No habitat and no depletions anticipated

Common Name	Scientific Name	Status*	Habitat	Habitat Present or Potential to be Affected by Project?
Invertebrates				
Monarch butterfly	<i>Danaus plexippus plexippus</i>	C	Dependent on milkweeds (<i>Asclepiadoideae</i>) as host plants and forage on blooming flowers; a summer resident	No
Plants				
Ute ladies'-tresses orchid (ULTO)	<i>Spiranthes diluvialis</i>	T	Moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes below 7,800 feet in elevation	No
Western prairie fringed orchid**	<i>Platanthera praeclara</i>	T	Moist to wet prairies and meadows	No habitat and no depletions anticipated

*T = Federally Threatened Species, E = Federally Endangered Species, C = Candidate for Federal Listing.

**Water depletions in the South Platte River may affect the species and/or critical habitat in downstream reaches in other counties or states.

Source: (U.S. Fish and Wildlife Service 2023a)

It is not likely for the proposed project to affect the gray wolf because of the lack of potentially suitable habitat in the project area and because it is ERO's understanding that the project does not require a predator management program (U.S. Fish and Wildlife Service 2023a).

The piping plover, whooping crane, pallid sturgeon, and western prairie fringed orchid are species that are affected by depletions to the Platte River system. Based on ERO's knowledge of the types of activities likely to be implemented as part of the development of the project area, there would be no depletions to the South Platte River. If the project includes activities that deplete water in the South Platte River, such as diverting water from a stream or developing new water supplies, these species could be affected by the project and consultation with the Service may be required.

The project area contains herbaceous emergent wetland habitat that would be considered suitable for the eastern black rail. However, the Service currently only considers the Arkansas River drainage part of the breeding range for eastern black rails and does not consider the South Platte River drainage within the eastern black rail's breeding range (Colorado Parks and Wildlife 2020b). Based on current knowledge of the eastern black rail's distribution, there would be no effects on the species, and no further action is necessary. Should new information become available that expands the known breeding range of the eastern black rail to the South Platte River drainage, future consultation with the Service may be required.

The project area is not within a designated migration corridor or breeding or overwintering area for the monarch butterfly (U.S. Fish and Wildlife Service 2019), although some monarch butterflies migrate through Colorado in the summer. A few scattered milkweeds were observed in the project area during the 2023 site visits, but ERO did not observe monarch butterflies during the 2023 site visits. This species may occasionally travel through the project area but is not likely to lay eggs because host plants are

sparse and because of the potential predation by invasive paper wasps (*Polistes dominula*) (Baker and Potter 2020). As a candidate species, monarch butterflies are not currently under federal regulation. Should the monarch butterfly's status be elevated to that of a threatened or endangered species, future consultation with the Service may be required.

Although the project area contains some areas of mesic riparian corridor and one wetland (Wetland 1), the project area does not meet the habitat criteria for ULTO (U.S. Fish and Wildlife Service 1992) and there is no suitable habitat to support a population in the project area. The project area is located in Weld County, a perennial tributary to the South Platte River was not observed in the project area, and vegetation in the project area consists primarily of species not typically associated with ULTO. In the project area, wetland vegetation is dominated by densely growing species such as cattails, reed canarygrass, and sandbar willow, which are species not typically associated with ULTO habitat. As such, the proposed project would have no effect on ULTO because no suitable habitat is present in the project area.

Preble's Meadow Jumping Mouse

Species Background

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

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

amount of shrub cover available at a site (White and Shenk 2000). Mountain riparian sites may be surrounded by dense forest vegetation (such as ponderosa pine (*Pinus ponderosa*) in Colorado), and sites on the plains have less woody vegetation.

Suitable Habitat and Effects

During the 2023 site visits, ERO assessed the project area for potential Preble's habitat. Portions of Drainage 1 and Drainage 2 in the project area support riparian vegetation communities, which are potential Preble's habitat. Sandbar willows occur intermittently along both Drainage 1 and Drainage 2 and may provide the forage and cover that Preble's requires; however, portions of the riparian corridor and the areas surrounding the drainages have been heavily disturbed by human activities. These drainages also occur outside of the mapped 100-year floodplain and the wetlands found in the project area consist entirely of dense stands of cattails. The nearest known locations of Preble's occur along the South Platte River approximately 27 river miles upstream from the project location and along the St. Vrain River approximately 25 river miles from the project area (Savage and Savage 2001; Boulder County Parks and Open Space 2014). These known Preble's locations are separated from the project area by substantial urban development including the cities of Firestone and Longmont.

Recommendations

Under existing regulations, some level of consultation with the Service for Preble's is required for any habitat-disturbing activities in areas determined to be potential Preble's habitat (generally riparian habitat along streams and ditches along the Colorado Front Range). Should the project involve habitat-disturbing activities in wetland or riparian habitat, consultation with the Service would be required. ERO recommends submitting a habitat assessment to the Service requesting concurrence that the project area is not habitat for Preble's and that the proposed project would not adversely affect the continued existence of Preble's.

State Threatened and Endangered Species and Species of Special Concern

During the 2023 site visits, ERO assessed the project area for potential habitat for threatened and endangered species and species of special concern protected under State Statute 33. Although State Statute 33 prohibits the take, possession, and sale of state-listed species, it does not include protection of their habitat. ERO also assessed the project area for habitat for Tier 1 species designated in the Colorado State Wildlife Action Plan (SWAP). SWAP was developed by CPW to document the status of knowledge about the wildlife species of conservation need in the state. SWAP determines the state's Species of Greatest Conservation Need (SGCN), documents threats to the species and habitats, and articulates strategies that can be employed to lessen those threats. SGCN do not require protection via federal or state listing regulation under SWAP, although some of the SGCN are also listed or protected by other statutes. SWAP prioritizes 55 of those species into Tier 1 SGCN (Colorado Parks and Wildlife 2015).

The project area lacks habitat for the majority of the species protected under State Statute 33 and of the SGCN listed as Tier 1 in the SWAP; however, there is potential habitat or documented occurrences within 1 mile of the project area for several of these species (Table 3).

Table 3. State-listed species and state species of concern potentially occurring in the project area.

Common Name	Scientific Name	State Status ¹	Habitat	Potential to be Affected by Project?
Mammals				
Black-tailed prairie dog	<i>Cynomys ludovicianus</i>	SC	Eastern plains/urban	Yes, active prairie dog colony located in the project area.
Little brown myotis	<i>Myotis lucifugus</i>	Tier 1	Woodlands, caves, and in or under buildings and bridges in urban areas	Potential habitat in the project area; the project may affect individuals, but large-scale effects on regional populations are not anticipated.
Olive-backed pocket mouse	<i>Perognathus fasciatus</i>	Tier 1	Arid and semiarid upland grasslands and prairies that contain loose soils	Potential habitat in the project area; the project may affect individuals, but large-scale effects on regional populations are not anticipated.
Birds				
American peregrine falcon	<i>Falco peregrinus anatum</i>	SC	Open spaces associated with high cliffs and bluffs overlooking rivers and coasts	No habitat and no known nesting areas nearby.
Bald eagle	<i>Haliaeetus leucocephalus</i>	SC	Open water and rivers; large trees for nesting and roosting	No known nests, roosts, concentration areas, or forage areas occur in the vicinity. The project area is located on the edge of mapped winter range.
Ferruginous hawk	<i>Buteo regalis</i>	SC	Northwestern and eastern Colorado; open grasslands and shrub steppe communities	No, outside of CPW-mapped breeding range.
Golden eagle	<i>Aquila chrysaetos</i>	Tier 1	Open mountains, foothills, plains, deserts, and open country	Potential foraging habitat occurs in the project area, but unlikely to support. Impacts on this species are not anticipated.
Greater sandhill crane	<i>Grus canadensis tabida</i>	SC/Tier 1	Eastern Colorado; Grand Valley	No.
Long-billed curlew	<i>Numenius americanus</i>	SC	Shortgrass and mixed-grass prairies of southeastern Colorado	No, outside of CPW-mapped breeding range.
Mountain plover	<i>Charadrius montanus</i>	Tier 1	Shortgrass in eastern plains and mountain valleys	No, outside of CPW-mapped breeding range.
Western burrowing owl	<i>Athene cunicularia</i>	ST/Tier 1	Rangeland and shortgrass prairie with prairie dogs	Yes, active prairie dog colonies were observed in the project area.
Western snowy plover	<i>Charadrius alexandrinus</i>	SC	Southeastern Colorado, South Park	No, outside of CPW-mapped breeding range.

Common Name	Scientific Name	State Status ¹	Habitat	Potential to be Affected by Project?
Fishes				
Orangespotted sunfish	<i>Lepomis humilis</i>	Tier 1	Sloughs, lakes, ponds, rivers, and creeks	No suitable habitat in the project area.
Stonecat	<i>Noturus flavus</i>	SC/Tier 1	Runs, riffles, and rapids in warm creeks and small to large rivers	No suitable habitat in the project area.
Reptiles and Amphibians				
Common gartersnake	<i>Thamnophis sirtalis</i>	SC	Eastern base of the Front Range in floodplains and near streams	Potential habitat in the project area, but unlikely to support. Impacts on this species are not anticipated.
Northern leopard frog	<i>Lithobates pipiens</i>	SC/Tier 1	Wet meadows and shallows of marshes, ponds, lakes, reservoirs, streams, and irrigation ditches up to 11,000 feet in elevation	Potential habitat in the project area, but unlikely to support. Impacts on this species are not anticipated.

¹SE = Endangered Species, ST = Threatened Species, SC = Species of Special Concern.

Source: Colorado Natural Heritage Program 2023.

State Species Eliminated from Further Consideration

The American peregrine falcon, ferruginous hawk, greater sandhill crane, long-billed curlew, mountain plover, and western snowy plover would not be affected by the proposed project because the project area is outside of the known breeding range of these species, or habitat is not present, and, therefore, these species are not discussed in the following sections. Additionally, the project area occurs within a hydrologic unit with known presence of orangespotted sunfish and stonecat (Colorado Parks and Wildlife 2021b); however, there is no potential for the listed fish species to occur in the project area due to lack of suitable stream habitats.

The project area occurs in mapped overall range for little brown myotis (Colorado Parks and Wildlife 2021b). The little brown myotis day roosts under rocks and tree bark and in woodpiles (Fitzgerald, Meaney, and Armstrong 1994). The trees and buildings in and adjacent to the project area have potential to support little brown myotis; however, the limited amount of available habitat is not likely to support the little brown myotis. If this species is found in the project area, attempts should be made to avoid disturbing the animals until all individuals have left the area. Operations near the individuals should temporarily cease until they have vacated the project area. Due to the existing disturbance in the project area, large-scale impacts on this species are not anticipated by the project.

Olive-backed pocket mice occur in Colorado in grasslands along the western margin of the plains and in shrub grasslands of the northwestern part of the state (Armstrong 1972). Nonnative disturbed areas in the project area are unlikely to support olive-backed pocket mouse and the project would not adversely affect the species. If this species is found foraging or breeding in the project area, attempts should be made to avoid disturbing the animals until all individuals have left the area.

The common gartersnake inhabits a very wide range of aquatic, wetland, and upland habitats, but is mostly confined to riparian corridors (NatureServe 2023). The wetlands and riparian corridors in the project area have potential to support common gartersnake; however, the limited amount of available potential habitat is not likely to support the species. If this species is found in the project area, attempts

should be made to avoid disturbing the animals until all individuals have left the area. Operations near the individuals should temporarily cease until they have vacated the project area. Due to the low quality of potential habitat and existing disturbance in the project area, it is unlikely to support common gartersnake and impacts on this species are not anticipated by the project.

The northern leopard frog prefers the banks and shallow portions of marshes, wet meadows, ponds, lakes, and streams, particularly where rooted aquatic vegetation is present (Hammerson 1999). The frogs prefer permanent water bodies and are a wide-ranging species known to elevations of 11,000 feet. In summer, they commonly inhabit wet meadows and fields. They take cover underwater, in damp niches, or in caves when inactive. Wintering sites are usually underwater, though some frogs possibly overwinter underground (Karns 1992). The wetlands in the project area have potential to support northern leopard frog; however, the limited amount of available potential habitat is not likely to support the species. If this species is found in the project area, attempts should be made to avoid disturbing the animals until all individuals have left the area. Operations near the individuals should temporarily cease until they have vacated the project area. Due to the low quality of potential habitat and existing disturbance in the project area, it is unlikely to support northern leopard frog and impacts on this species are not anticipated by the project.

None of the species discussed above were observed during the 2023 site visits. Furthermore, for the reasons discussed above, it is unlikely that these species are present in the project area or would be affected by the project. If any of these species are found foraging in the project area, attempts should be made to avoid disturbing the animals until all individuals have left the area. Operations near the individuals should temporarily cease until the animals have vacated the project area.

Other Species and Habitats of Concern

Black-Tailed Prairie Dog

Species Background

The black-tailed prairie dog is a Colorado species of special concern (Colorado Parks and Wildlife 2022). Black-tailed prairie dogs are important components of the short and mesic grasslands systems. Threats to this species include habitat loss and degradation, habitat fragmentation, disease (sylvatic plague), and lethal control activities. Typically, areas occupied by prairie dogs have greater cover and abundance of perennial grasses and annual forbs compared with unoccupied sites (Whicker and Detling 1988) (Witmer et al. 2000).

Black-tailed prairie dogs are commonly considered a “keystone” species because their activities (burrowing and intense grazing) provide food and shelter for many other grassland species and have a large effect on community structure and ecosystem function (Power et al. 1996). Prairie dogs can contribute to overall landscape heterogeneity, affect nutrient cycling, and provide nest sites and shelter for wildlife (Whicker and Detling 1988). Species such as black-footed ferret, burrowing owl, prairie rattlesnake, and mountain plover are closely linked to prairie dog burrow systems for food and cover.

Prairie dogs also provide an important prey resource for numerous predators including American badger, coyote, red fox, bald eagle, golden eagle, ferruginous hawk, and other raptors. Prairie dogs also can denude the surface by clipping aboveground vegetation and contributing to exposed bare ground by digging up roots (Kuford 1958); (Smith 1967).

Potential Habitat and Effects

Active and inactive black-tailed prairie dog burrows were observed in the project area during the 2023 site visits (Figure 2). Prior to construction, CPW recommends conducting burrowing owl clearance surveys in prairie dog towns that are subject to poisoning or construction projects during the period from March 15 through October 31 (Colorado Parks and Wildlife 2021a). Construction occurring from November 1 through March 14 would not require clearance surveys.

Recommendations

ERO observed active and inactive black-tailed prairie dog burrows along portions of the project area during the 2023 site visits (Figure 2). Although prairie dogs are not protected under the ESA, CPW recommends attempting to remove, translocate, or exterminate prairie dogs prior to bulldozing an active prairie dog town for humane reasons. Currently, the Town and Weld County do not have any regulations or policies pertaining to prairie dogs.

Western Burrowing Owl

Species Background

The western burrowing owl (burrowing owl) is a small migrant owl listed by the state of Colorado as a threatened species and is federally protected under the MBTA. Primary threats to the burrowing owl include habitat loss and fragmentation, anthropogenic sources of mortality such as vehicular collisions, and loss of wintering grounds, largely in Mexico (McDonald, Korfanta, and Lantz 2004).

In general, burrowing owls are found in grasslands with vegetation less than 4 inches high and a relatively large proportion of bare ground (Gillihan and Hutchings 2000). In Colorado, burrowing owls are usually associated with black-tailed prairie dog colonies (Colorado Bird Atlas Partnership 2016); (Andrews and Righter 1992). More than 70 percent of sightings reported in Colorado Breeding Bird Atlases were in prairie dog colonies (Colorado Bird Atlas Partnership 2016).

Burrowing owls usually arrive on their breeding grounds around mid-March to early April and remain until September (Haug and Oliphant 1990). Burrowing owls are typically present in Colorado from March 15 through October 31, with breeding from mid-April through early/mid-August (Andrews and Righter 1992; Colorado Bird Atlas Partnership 2016). CPW suggests conducting burrowing owl clearance surveys in prairie dog towns that are subject to poisoning or construction projects during the period from March 15 through October 31 (Colorado Parks and Wildlife 2021d).

Potential Habitat and Effects

The prairie dog burrows in the project area are potential habitat for burrowing owls (Photo 1; Figure 2). Inadvertent killing of burrowing owls could occur during prairie dog poisoning, construction, or

earthmoving projects during the breeding period, as well as up to a month before egg laying and several months after young have fledged. CPW has a recommended buffer of $\frac{1}{8}$ mile (660 feet) to $\frac{1}{4}$ mile (1,320 feet) surrounding active burrowing owl nests, depending on the nature of the disturbance, during the nesting season (March 15 through August 31) (Colorado Parks and Wildlife 2020a). Burrowing owls could be impacted by the project if work would occur within CPW's recommended buffer of any burrows.

Recommendations

A burrowing owl survey should be conducted if work would occur within the recommended buffer of any burrow from March 15 through October 31. Additionally, CPW recommends conducting burrowing owl clearance surveys in prairie dog towns that are subject to poisoning and/or construction projects during this period (March 15 through October 31) (Colorado Parks and Wildlife 2021d). If owls are present within 660 feet of the project area, activities should be restricted until the owls have migrated from the site, which can be determined through monitoring. Construction occurring from November 1 through March 14 would not require clearance surveys.

Raptors and Migratory Birds

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

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

CPW maintains a leadership role with respect to raptor management in Colorado; however, the primary authority for the regulation of take and the ultimate jurisdiction for most of these species rests with the Service under the MBTA and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c).

Potential Habitat and Effects

A wide variety of bird species use different habitat types in the project area for shelter, breeding, wintering, and foraging at various times during the year. The disturbed uplands, agricultural fields, wetlands, and riparian areas in and adjacent to the project area are potential nesting habitat for migratory birds. During the 2023 site visits, ERO observed red-winged blackbird (*Agelaius phoeniceus*),

great horned owl (*Bubo virginianus*), red-tailed hawk (*Buteo jamaicensis*), turkey vulture (*Cathartes aura*), killdeer (*Charadrius vociferus*), northern flicker (*Colaptes auratus*), rock dove (*Columba livia*), common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), American kestrel (*Falco sparverius*), dark-eyed junco (*Junco hyemalis*), song sparrow (*Melospiza melodia*), black-billed magpie (*Pica hudsonia*), Say's phoebe (*Sayornis saya*), western meadowlark (*Sturnella neglecta*), European starling (*Sturnus vulgaris*), American robin (*Turdus migratorius*), and mourning dove (*Zenaida macroura*) in or soaring over the project area.

ERO surveyed the project area for nests during the 2023 site visits. ERO observed five raptor nests and several dilapidated old magpie nests within ½ mile of the project area (Figure 2 and Figure 3). One nest in the northeastern portion of the project area was occupied by great-horned owlets during the 2023 site visits (Photo 10), one nest in the northern portion of the project area was attended by a pair of red-tailed hawks but was not yet in use (Photo 11), one active red-tailed hawk nest was observed greater than ⅓ mile southeast of the project area, and one nest occupied by great-horned owl was observed greater than ⅓ mile northeast of the project area. Raptors such as red-tailed and Swainson's hawks could potentially use the observed nests in and adjacent to the project area. Depending on the species, CPW recommends a ⅓- or ¼-mile buffer from active raptor nests from February through July for human encroachment activities or installation of a permanent or long-standing physical object or structure (Colorado Parks and Wildlife 2020a). CPW does not have a published recommended buffer for avoiding disturbance to great-horned owl nests, but a 330- to 600-foot buffer is generally acceptable, depending on activity. The breeding season for most birds in Colorado is March through mid-September, with the exception of a few species that begin breeding in February, such as great-horned owls.

Recommendations

To avoid destruction of potential migratory bird nests, vegetation removal should be conducted outside of the April 1 through September 15 breeding season. CPW has identified the primary nesting season for migratory birds in Colorado as occurring from April 1 through September 15 (U.S. Fish and Wildlife Service 2009). However, a few species such as bald eagles, great horned owls, and red-tailed hawks can nest as early as December (eagles) or late February (owls and red-tailed hawks). Because of variability in the breeding seasons, ERO recommends that a nest survey be conducted within one week prior to construction to determine if the observed raptor nests or any other active nests are present in the project area so that they can be avoided. Additional nest surveys during the nesting season may also be warranted to identify active nesting species that may present additional development timing restrictions (e.g., eagles or red-tailed hawks).

If active nests are identified in or near the project area, activities that would directly affect the nests should be restricted. Habitat-disturbing activities (e.g., tree removal, grading, scraping, and grubbing) should be conducted during the nonbreeding season to avoid disturbing active nests, or to avoid a "take" of the migratory bird nests in the project area. Nests can be removed during the September 1 through March 31 nonbreeding season to preclude future nesting and avoid violations of the MBTA. There is no process for removing nests during the nonbreeding season; however, nests may not be collected under MBTA regulations. If the construction schedule does not allow vegetation removal

outside of the breeding season, a nest survey should be conducted immediately prior to vegetation removal to determine if the nests are active and by which species. If active nests are found, any work that would destroy the nests or cause the birds to abandon young in the nest should not be conducted until the birds have vacated the nests.

The CPW has recommended buffer zones of $\frac{1}{2}$ mile for active red-tailed hawk nests and $\frac{1}{4}$ mile for active Swainson's hawk nests. Activities that would directly impact an active nest, or that would encroach close enough to cause adult birds to abandon the nest during the breeding season, should be restricted. Construction activities that could potentially be within a red-tailed hawk or other raptor buffer zone should commence outside of the February 15 to September 15 breeding season. Consultation with CPW or the Service may be required if construction is proposed within a buffer zone of an active raptor nest. Although there is no CPW buffer designated for great horned owls, any active nest should be left undisturbed until the birds have left the nest. CPW recommends consultation with local CPW staff early in the planning phase of project proposals to assess and develop site-specific recommendations based on preexisting conditions (e.g., existing development, topography, vegetation, and line-of-sight to nest).

Bald Eagle and Golden Eagle

Species Background

The Bald Eagle Protection Act (Eagle Act) was originally passed in 1940. In 1962, the Eagle Act was amended to include the golden eagle (Bald and Golden Eagle Protection Act - BGEPA). The BGEPA prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. The BGEPA defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb." The BGEPA affords eagles additional protections beyond those provided by the MBTA by making it unlawful to "disturb" eagles. In 2016, "disturb" under the BGEPA was defined to mean to "agitate or bother a bald or golden eagle to a degree that causes or is likely to cause, based on the best scientific information, (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

Removing nests, destroying nests, or causing nest abandonment may constitute a violation of the MBTA and BGEPA. The BGEPA authorizes the Service to issue eagle incidental take permits only when the take is "compatible with the preservation of bald eagles or golden eagles." In December 2016, the Service published a final rule regarding Eagle Take Permits, outlining revisions to regulations for eagle incidental take and take of eagle nests (Service 2016a). The permitting process provides limited exceptions to the BGEPA's prohibitions and the Service has issued regulations concerning the permit procedures in 50 CFR 22.

The bald eagle is a large North American bird with a historical distribution throughout most of the U.S. Most bald eagle nesting in Colorado occurs near lakes or reservoirs or along rivers. Typical bald eagle nesting habitat consists of forests or wooded areas that contain tall, aged, dying, and dead trees (Martell 1992). Bald eagles seek aquatic habitat for foraging and typically prefer fish, although they also

feed on birds, mammals, and carrion, particularly in winter (Buehler 2000) Sharps and Uresk 1990). Prairie dogs provide a major food resource for bald eagles wintering along the Colorado Front Range (Environmental Science and Engineering 1988).

Golden eagles occupy a variety of open and semi-open habitats, using grasslands and shrub steppe to hunt for small mammals including prairie dogs, jackrabbits, cottontails, and ground squirrels (Wickersham 2016) and will also use pinyon-juniper woodlands, canyons, and shrublands. This species prefers cliffs for nesting, but can also use trees and transmission line structures.

Potential Habitat and Effects

No known bald nests occur in the project area or within a ½-mile radius of the project area (the CPW-recommended buffer) and no bald eagles were observed during the 2023 site visits; however, the project area is on the edge of CPW-mapped bald eagle winter range (Natural Diversity Information Source 2021). Winter range typically refers to those areas where bald eagles have been observed from November 15 through March 15 (Colorado Parks and Wildlife 2020a).

The project area occurs within CPW-mapped breeding range for golden eagle, but no known golden eagle nest or roost sites occur in the project area or within a ½-mile radius of the project area (the CPW-recommended buffer). The closest known nest is approximately 20 miles from the project area to the northwest (CPW 2022). No golden eagles were observed during the 2023 site visits; however, golden eagles may forage on the open country in the vicinity of the project area. Individuals could be displaced by disturbance from noise and human presence during construction and maintenance.

The project area is bounded by residential properties to the west and I-25 on the east. Other infrastructure and buildings within ½ mile of the project area include the Colorado National Speedway, Furniture Row, a junkyard/outside storage facility, a BNSF railroad corridor, and scattered ranchettes and agricultural outbuildings. Additional sources of anthropogenic (human-caused) disturbance are in proximity of the project area and the mapped bald eagle winter range.

Recommendations

For any work is conducted in areas mapped as bald eagle winter range, ERO recommends contacting the local CPW district manager requesting concurrence that the proposed project would not likely affect wintering bald eagles. Because of the ambient level of human disturbance in the project area and surrounding area, and because no known roosts are in the area, ERO concluded that the project activities would not likely disturb eagles potentially using the winter range or that may forage in the project area.

High Priority Habitat and Big Game

In 2021, CPW released a High Priority Habitat (HPH) table that identifies species and habitats, as well as recommendations to avoid and minimize impacts on wildlife from land use development (CPW 2021). ERO reviewed data from CPW map databases and determined that no HPH areas overlap the project area (Colorado Parks and Wildlife 2021c). Additionally, the project area is within mapped mule deer

overall range and in a mule deer limited use area (Natural Diversity Information Source 2021). ERO assessed the project area for habitat for species and habitats listed in the HPH table during the 2023 site visits, and because mule deer and bats likely frequent the project area, these species are discussed in more detail below.

Mule Deer

Species Background

Mule deer are found in all ecosystems in Colorado from grasslands to alpine tundra. Spring and summer ranges are typically mosaics of meadows, aspen woodlands, alpine tundra-subalpine forest edges, or montane forest edges (Fitzgerald 1994). Seasonally, mule deer are relatively sedentary, although most will spend the summer at higher elevations and migrate to lower elevations in the winter. Mule deer diets vary seasonally but generally consist of browse from trees and shrubs, forbs, and grasses.

Potential Habitat and Effects

Although the project area is located in mule deer overall range and in a mule deer limited use area (defined by CPW to be an area within the overall range of mule deer that is only occasionally inhabited and/or contains only a small population of scattered mule deer), no mule deer HPH areas, including migration corridors, severe winter range, or winter concentration areas, are located in the project area (CPW 2021). The closest mule deer HPH (mule deer winter concentration area) is located approximately 7.5 miles east of the project area along the South Platte River near Fort Lupton, Colorado. Although no mule deer were observed in the project area during the 2023 site visits, it is likely that mule deer forage and migrate through the project area. Additionally, a deer leg carcass was observed in a tree in the central portion of the project area during the 2023 site visits. This deer leg was likely placed in the tree by a predator or scavenger.

Recommendations

Because no HPH for mule deer occurs in the project area, no action is necessary.

Other Wildlife

The project area provides habitat for a variety of small mammals such as cottontail rabbits (*Sylvilagus* sp.), deer mice (*Peromyscus maniculatus*), voles (*Microtus* sp.), and pocket gophers (*Geomyidae*). The agricultural and grassland habitats likely provides breeding habitat for numerous ground-nesting prairie bird species, and riparian ecosystems typically support many more species of native birds than surrounding grassland or shrubland communities (Knopf and Samson 1994).

Carnivores such as coyote (*Canis latrans*), raccoon (*Procyon lotor*), red fox (*Vulpes vulpes*), grey fox (*Urocyon cinereoargenteus*), and striped skunk (*Mephitis mephitis*) are also likely to occur in the project area. These species are typically observed in open grasslands and close to riparian corridors. None of these species or signs of these species were observed during the 2023 site visits and no designated wildlife corridors are mapped in the project area (Natural Diversity Information Source 2021).

The project area occurs in a hydrologic unit with the mapped presence of Iowa darter, stonecat, and orangespotted sunfish; and in the mapped overall range for big brown bat, hoary bat, little brown myotis, long-eared myotis, red-bat, silver-haired bat, and tri-colored bat (Colorado Parks and Wildlife 2021b).

As with any human development, wildlife species sensitive to human disturbance are likely to decline in abundance or abandon the area, while other wildlife species adapted to development are likely to increase in abundance. Overall, surrounding and continuing development contributes to a decline in the number and diversity of wildlife species nearby and to a change in species composition to favor species that adapt better to human disturbance.

Post-Construction Habitat Recommendations

It is likely that a diverse wildlife community would be found in the project area after development, including many of the wildlife species that likely use the project area such as mule deer, bats, and songbirds. In addition, some raptors, such as great horned owls and red-tailed hawks, are known to inhabit areas of human disturbance.

Habitat Management Guidelines

To maximize the continued use of the area by native wildlife and to protect the natural resources, ERO recommends implementing the following strategic planning principles:

- Preserve, to the greatest extent feasible, the wetlands, drainage corridors, native trees, and wildlife habitat found in the project area.
- Preserve, to the greatest extent feasible, native grassland species, which provide valuable forage for many wildlife species, including mule deer, and potential nesting habitat for western meadowlark and other ground-nesting species.
- Conduct nest surveys prior to construction of the development to avoid the inadvertent take of raptor or migratory bird nests, which are protected under federal and state laws. Follow CPW recommendations and implement buffers restricting disturbance and construction activities around nests to the extent they remain active (Colorado Parks and Wildlife 2020a). If possible, conduct habitat-disturbing activities such as tree removal, grading, scraping, and grubbing during the nonbreeding season (September through March for most songbirds) to avoid disturbance (or take) of an active migratory bird nest, including nests of ground-nesting species.
- Where feasible, leave trees in place to provide habitat and cover for avian species.
- Develop and implement a noxious weed plan and management recommendations to control weeds on-site and maintain foraging habitat for big game and other wildlife. Prevalent noxious weed species include cheatgrass, diffuse knapweed, Scotch thistle, Canada thistle, and common mullein.
- Contain and control noxious weeds and aggressive exotic species in areas not slated for development or that will not be developed until later phases as required by Town code.
- Reclaim temporarily disturbed areas that will not be landscaped with a mix of native species that are found on-site or that are highly compatible with site conditions.

- Educate residents on wildlife interactions. All wildlife, particularly big game, predators, and human commensal species such as raccoons, can cause nuisance problems in residential developments. Contact information and resources from CPW and the Town should be provided to residents that describe how to minimize conflicts and ways to enjoy the natural resources in the area. Residents should also be made aware that feeding wildlife, with the exception of birds, is against state law.

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Appendix A Photo Log



Photo 1 - Active prairie dog colony, disturbed uplands, and old mine structures in the southeastern portion of the project area. View is to the northwest.



Photo 2 - Fallow agricultural fields in the southeastern portion of the project area. View is to the northwest.



Photo 3 - OHWM 1 along Drainage 1 and fallow agricultural fields in the northeastern portion of the project area. View is to the northeast.



Photo 4 - DP7 along Drainage 1 in the northeastern portion of the project area. View is to the southwest.

I-25 ERIE GATEWAY – SOUTH PD DISTRICT NATURAL RESOURCES ASSESSMENT
PHOTO LOG
APRIL 3 AND APRIL 24, 2023



Photo 5 - DP8 along Drainage 1 in the northeastern portion of the project area. View is to the southwest.



Photo 6 - Overview of Wetland 1 and OHWM 6 along Drainage 2 in the southeastern portion of the project area. View is to the northeast.

I-25 ERIE GATEWAY – SOUTH PD DISTRICT NATURAL RESOURCES ASSESSMENT
PHOTO LOG
APRIL 3 AND APRIL 24, 2023



Photo 7 - Overview of DP3 and Drainage 2 upstream of culvert in the southeastern portion of the project area. View is to the southwest.



Photo 8 - OHWM 8 in the central portion of the project area. View is to the east.



Photo 9 - Community Ditch in the northwestern portion of the project area. View is to the southwest.



Photo 10 - Active great-horned owl nest in the northeastern portion of the project area. View is to the southwest.

I-25 ERIE GATEWAY – SOUTH PD DISTRICT NATURAL RESOURCES ASSESSMENT
PHOTO LOG
APRIL 3 AND APRIL 24, 2023



Photo 11 - Likely active red-tailed hawk nest in the northern portion of the project area. View is to the northeast.

Appendix B Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: I-25 Erie Gateway City/County: Erie/Weld County Sampling Date: 4/3/22
 Applicant/Owner: Town of Erie State: CO Sampling Point: DP1
 Investigator(s): H. Gerstung & J. Birek Section, Township, Range: NE 1/4 SE 1/4 Section 15, T1N, R68W
 Landform (hillslope, terrace, etc.): drainage way Local relief (concave, convex, none): convex Slope (%): <1
 Subregion (LRR): G Lat: 40.048728 Long: -104.981454 Datum: NAD83
 Soil Map Unit Name: Renohill clay loam, 3 to 9 percent slopes NWI classification: PEM1C

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

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

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland?	Yes ☒ No ☐
Hydric Soil Present?	Yes ☒ No ☐		
Wetland Hydrology Present?	Yes ☒ No ☐		
Remarks: Cattail dominated drainage			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B) Prevalence Index worksheet: Total % Cover of: <table border="1"> <tr><td>OBL species</td><td></td></tr> <tr><td>FACW species</td><td></td></tr> <tr><td>FAC species</td><td></td></tr> <tr><td>FACU species</td><td></td></tr> <tr><td>UPL species</td><td></td></tr> </table> Multiply by: <table border="1"> <tr><td>x 1 =</td><td></td></tr> <tr><td>x 2 =</td><td></td></tr> <tr><td>x 3 =</td><td></td></tr> <tr><td>x 4 =</td><td></td></tr> <tr><td>x 5 =</td><td></td></tr> </table> Column Totals: <u>(A)</u> <u>(B)</u> Prevalence Index = B/A = _____	OBL species		FACW species		FAC species		FACU species		UPL species		x 1 =		x 2 =		x 3 =		x 4 =		x 5 =	
OBL species																								
FACW species																								
FAC species																								
FACU species																								
UPL species																								
x 1 =																								
x 2 =																								
x 3 =																								
x 4 =																								
x 5 =																								
1. _____																								
2. _____																								
3. _____																								
4. _____																								
0 = Total Cover																								
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes ☒ No ☐																				
1. _____																								
2. _____																								
3. _____																								
4. _____																								
5. _____																								
0 = Total Cover																								
Herb Stratum (Plot size: <u>5'</u>)																								
1. <u>Typha angustifolia</u>	<u>95</u>	<u>y</u>	<u>OBL</u>																					
2. _____																								
3. _____																								
4. _____																								
5. _____																								
6. _____																								
7. _____																								
8. _____																								
9. _____																								
10. _____																								
95 = Total Cover																								
Woody Vine Stratum (Plot size: <u>30'</u>)																								
1. _____																								
2. _____																								
0 = Total Cover																								
% Bare Ground in Herb Stratum <u>5</u>																								
Remarks:																								

SOIL

Sampling Point: DP1

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

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Soils assumed hydric due to surface wetland hydrology, single obligant dominant, and distinct wetland boundary

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☒ No ☐ Depth (inches): surface
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: I-25 Erie Gateway City/County: Erie/Weld County Sampling Date: 4/3/22
 Applicant/Owner: Town of Erie State: CO Sampling Point: DP2
 Investigator(s): H. Gerstung & J. Birek Section, Township, Range: NE 1/4 SE 1/4 Section 15, T1N, R68W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): <1
 Subregion (LRR): G Lat: 40.048772 Long: -104.981447 Datum: NAD83
 Soil Map Unit Name: 57 Renohill clay loam, 3 to 9 percent slopes NWI classification: PEM1C

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

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

Hydrophytic Vegetation Present?	Yes ☐ No ☒	Is the Sampled Area within a Wetland?	Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒		
Wetland Hydrology Present?	Yes ☐ No ☒		
Remarks: upland adjacent to cattail drainage			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____		_____	_____	
2. _____		_____	_____	
3. _____		_____	_____	
4. _____		_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species x 1 = _____ FACW species x 2 = _____ FAC species x 3 = _____ FACU species <u>35</u> x 4 = <u>140</u> UPL species <u>35</u> x 5 = <u>175</u> Column Totals: <u>70</u> (A) <u>315</u> (B) Prevalence Index = B/A = <u>4.5</u>
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Basia scoparia</u>	<u>35</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Bromus tectorum</u>	<u>25</u>	<u>Y</u>	<u>NI/UPL</u>	
3. <u>Bromus inermis</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	
4. _____		_____	_____	
5. _____		_____	_____	
6. _____		_____	_____	
7. _____		_____	_____	
8. _____		_____	_____	
9. _____		_____	_____	
10. _____		_____	_____	
<u>70</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u>)				
1. _____		_____	_____	Hydrophytic Vegetation Present? Yes ☐ No ☒
2. _____		_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>30</u>				
Remarks:				

SOIL

Sampling Point: DP2

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

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Did not sample based on upland vegetation and lack of hydrology

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

Project/Site: I-25 Erie Gateway City/County: Erie/Weld Sampling Date: 4/3/23
 Applicant/Owner: Town of Erie State: CO Sampling Point: DP3
 Investigator(s): H. Gerstung, J. Birek Section, Township, Range: NW 1/4 SE 1/4 Section 15, T1N, R68W
 Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): Convex Slope (%): <1
 Subregion (LRR): G Lat: 40.0485981791 Long: -104.982354482 Datum: NAD83
 Soil Map Unit Name: Renohill clay loam, 3 to 9 percent slopes NWI classification: PEM1C

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

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Remarks:	

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
		= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		= Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status	
1. Phalaris arundinacea	95	Y	FACW	
2. Kochia scoparia	1			
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
		= Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
		= Total Cover		

% Bare Ground in Herb Stratum 4

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 - Rapid Test for Hydrophytic Vegetation

☐ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0¹

☐ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

SOIL

Sampling Point: DP3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/2	100		0			Silty Clay	
2-8.5	10YR 4/3	95	7.5YR 3/4	5	C	PL/M	Silty Clay	
8.5-14	10YR 4/3	20	7.5YR 2.5/N	10	C	M	Silty Clay	
8.5-14	10YR 3/2	40	Gley1 2.5/N	20	D	M	Silty Clay	
8.5-14	"	"	7.5YR 2.5/3	10	C	M	Silty Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☒ No ☐ Depth (inches): 8.5

(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Met geomorphic position. Toe slope.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: I-25 Erie Gateway City/County: Erie/Weld Sampling Date: 4/3/23
 Applicant/Owner: Town of Erie State: CO Sampling Point: DP4
 Investigator(s): H. Gerstung, J. Birek Section, Township, Range: NW 1/4 SE 1/4 Section 15, T1N, R68W
 Landform (hillslope, terrace, etc.): Along swale Local relief (concave, convex, none): none Slope (%): <2
 Subregion (LRR): G Lat: 40.0477365941 Long: -104.985352603 Datum: NAD83
 Soil Map Unit Name: 67, Ulm clay loam, 3 to 5 percent slopes NWI classification: PEM1C

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

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

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland?	Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒		
Wetland Hydrology Present?	Yes ☐ No ☒		
Remarks: Sandbar willow dominated upland swale			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. _____		_____	_____	
2. _____		_____	_____	
3. _____		_____	_____	
4. _____		_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species x 1 = _____ FACW species <u>60</u> x 2 = <u>120</u> FAC species x 3 = _____ FACU species x 4 = _____ UPL species <u>30</u> x 5 = <u>150</u> Column Totals: <u>90</u> (A) <u>220</u> (B) Prevalence Index = B/A = <u>3.0</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>) 1. <u>Salix exigua</u> <u>60</u> Y FACW				
2. _____		_____	_____	
3. _____		_____	_____	
4. _____		_____	_____	
60 = Total Cover				
Herb Stratum (Plot size: <u>5'</u>) 1. <u>Bromus inermis</u> <u>30</u> Y UPL				Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____		_____	_____	
3. _____		_____	_____	
4. _____		_____	_____	
5. _____		_____	_____	
6. _____		_____	_____	
7. _____		_____	_____	
8. _____		_____	_____	
9. _____		_____	_____	
10. _____		_____	_____	
30 = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ _____ 2. _____ _____ 0 = Total Cover				Hydrophytic Vegetation Present? Yes ☒ No ☐
% Bare Ground in Herb Stratum <u>70</u>				

Remarks:

SOIL

Sampling Point: DP4

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR-3/2	100					Clay Loar	
2-10	10YR-3/3	100					Clay Loar	

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

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

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: I-25 Erie Gateway City/County: Erie/Weld Sampling Date: 4/3/23
 Applicant/Owner: Town of Erie State: CO Sampling Point: DP5
 Investigator(s): H. Gerstung, J. Birek Section, Township, Range: NE 1/4 NE 1/4 Section 15, T1N, R68W
 Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): Concave Slope (%): <2
 Subregion (LRR): G Lat: 40.0579891915 Long: -104.983659175 Datum: NAD83
 Soil Map Unit Name: 67, Ulm clay loam, 3 to 5 percent slopes NWI classification: PEM1C

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

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐	Is the Sampled Area within a Wetland?	Yes ☐	No ☒
Hydric Soil Present?	Yes ☐	No ☒			
Wetland Hydrology Present?	Yes ☒	No ☐			
Remarks: Drainage way filled with dead cattails.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____		_____	_____	
2. _____		_____	_____	
3. _____		_____	_____	
4. _____		_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species x 1 = _____ FACW species x 2 = _____ FAC species x 3 = _____ FACU species x 4 = _____ UPL species x 5 = _____ Column Totals: (A) (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 0 = Total Cover				
Herb Stratum (Plot size: <u>5'</u>) 1. <u>Typha latifolia</u> <u>80</u> Y OBL 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 80 = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ 0 = Total Cover				
% Bare Ground in Herb Stratum <u>20</u>				
Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes ☒ No ☐				
Remarks:				

SOIL

Sampling Point: DP5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-13	10YR-4/2	100		0			Silty Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: I-25 Erie Gateway City/County: Erie/Weld Sampling Date: 4/24/23
 Applicant/Owner: Town of Erie State: CO Sampling Point: DP6
 Investigator(s): H. Gerstung Section, Township, Range: SW 1/4 NE 1/4 Section 15, T1N, R68W
 Landform (hillslope, terrace, etc.): along drainageway Local relief (concave, convex, none): none Slope (%): <1
 Subregion (LRR): G Lat: 40.0541891177 Long: 104.988662959 Datum: NAD83
 Soil Map Unit Name: 67, Ulm clay loam, 3 to 5 percent slopes NWI classification: PEM1C

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

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

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland?	Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒		
Wetland Hydrology Present?	Yes ☐ No ☒		
Remarks: Cattail			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)
1. <u>Populus deltoides</u>	<u>30</u>	Y	FAC	
2. <u>Salix X fragilis</u>	<u>10</u>	Y	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>40</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. <u>Salix exigua</u>	<u>10</u>	Y	FACW	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>10</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ☐ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes ☒ No ☐
1. <u>Bromus inermis</u>	<u>90</u>	Y	UPL	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>90</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				

Remarks:

SOIL

Sampling Point: DP6

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	7.5YR 3/2	100		0			Silty Clay	
9-14	7.5YR 4/3	99	7.5YR 3/4	1	C	M	Silty Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches): _____

Water Table Present? Yes ☐ No ☐ Depth (inches): _____

Saturation Present? Yes ☐ No ☐ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

only one secondary indicator observed

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: I-25 Erie Gateway City/County: Erie/Weld Sampling Date: 4/24/23
 Applicant/Owner: Town of Erie State: CO Sampling Point: DP7
 Investigator(s): H. Gerstung Section, Township, Range: NE 1/4 NE 1/4 Section 15, T1N, R68W
 Landform (hillslope, terrace, etc.): drainageway Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): G Lat: 40.0582592015 Long: -104.983344898 Datum: NAD83
 Soil Map Unit Name: 67, Ulm clay loam, 3 to 5 percent slopes NWI classification: PEM1C

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

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐	Is the Sampled Area within a Wetland?	Yes ☐	No ☒
Hydric Soil Present?	Yes ☐	No ☒			
Wetland Hydrology Present?	Yes ☒	No ☐			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____		_____	_____	
2. _____		_____	_____	
3. _____		_____	_____	
4. _____		_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species x 1 = _____ FACW species x 2 = _____ FAC species x 3 = _____ FACU species x 4 = _____ UPL species x 5 = _____ Column Totals: (A) (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 0 = Total Cover				
Herb Stratum (Plot size: <u>5'</u>) 1. <u>Typha angustifolia</u> <u>70</u> Y OBL 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 70 = Total Cover				
Woody Vine Stratum (Plot size: <u>15'</u>) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>30</u>				

Hydrophytic Vegetation Indicators:
☒ 1 - Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0¹
☐ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

SOIL

Sampling Point: DP7

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	10YR-3/3	100					Silty Clay	
9-14	10YR 4/3	95	10YR 4/3	5	C	PL	Silty Clay	

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

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

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: I-25 Erie Gateway City/County: Erie/Weld Sampling Date: 4/23/23
 Applicant/Owner: Town of Erie State: CO Sampling Point: DP8
 Investigator(s): H. Gerstung Section, Township, Range: NW 1/4 NE 1/4 Section 15, T1N, R68W
 Landform (hillslope, terrace, etc.): drainageway Local relief (concave, convex, none): none Slope (%): <1
 Subregion (LRR): G Lat: 40.0552607425 Long: -104.987383179 Datum: NAD83
 Soil Map Unit Name: 67, Ulm clay loam, 3 to 5 percent slopes NWI classification: PEM1C

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

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

Hydrophytic Vegetation Present?	Yes ☒ No ☐	Is the Sampled Area within a Wetland?	Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒		
Wetland Hydrology Present?	Yes ☒ No ☐		
Remarks: Cattails along drainageway			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____		_____	_____	
2. _____		_____	_____	
3. _____		_____	_____	
4. _____		_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species x 1 = _____ FACW species x 2 = _____ FAC species x 3 = _____ FACU species x 4 = _____ UPL species x 5 = _____ Column Totals: (A) (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 0 = Total Cover				
Herb Stratum (Plot size: <u>5'</u>) 1. <u>Typha latifolia</u> 70 Y OBL 2. <u>Cardaria draba</u> 20 N NI 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 90 = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ 0 = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				

Hydrophytic Vegetation Indicators:
☒ 1 - Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0¹
☐ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

SOIL

Sampling Point: DP8

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR-3/3	100		0			Silty Clay	
5-11	10YR 3/3	95	10YR 3/4	5	C	M	Silty Clay	
11-15	10YR 4/3	80	10YR 4/4	20	C	M	Sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

no hydric soil indicators observed

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

along drainageway