Wetland, Wildlife and Natural Features Report
for
Esteban Rodriguez Subdivision in El Paso County, Colorado

June 19, 2023

Prepared for:

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Project Number: 2022-23-1

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Include a figure or exhibit reflecting the preliminary plan too since this is the prelim project you're submitting for

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APPENDIX A – USDA CUSTOM SOIL RESOURCE REPORT
APPENDIX B – PHOTO LOCATION MAP AND REPRESENTATIVE PHOTOS
APPENDIX C – USFWS IPAC TRUST RESOURCE REPORT
APPENDIX D – USACE WETLAND DETERMINATION DATA FORMS

LIST OF ACROYNMS AND ABBREVIATIONS

AMSL	above mean sea level
BCC	Birds of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
CDA	Colorado Department of Agriculture
CNHP	Colorado Natural Heritage Program
COGCC	Colorado Oil and Gas Conservation Commission
CPW	Colorado Parks and Wildlife
CWA	Clean Water Act
ECOS	Ecosystem Services, LLC
ESA	Endangered Species Act
Guman	Willian Guman & Associates, Ltd.
JD	jurisdictional under the Clean Water Act
LEDPA	Least Environmentally Damaging and Practicable Alternative
MBTA	Migratory Bird Treaty Act
Non-JD	non- jurisdictional under the Clean Water Act
NRCS	Natural Resource Conservation Service
NTCHS	Technical Committee for Hydric Soils
NWI	National Wetland Inventory
PCA	CNHP Potential Conservation Area
PMJM	Preble's meadow jumping mouse
Project	Esteban Rodriguez Subdivision project
Report	Wetland, Wildlife and Natural Features Report
Site	Project site
T&E	Threatened and Endangered species
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 INTRODUCTION

Ecosystem Services, LLC (ECOS) was retained by Willian Guman & Associates, Ltd. (Guman) to perform a natural resource assessment for the 496.25-acre Esteban Rodriguez Subdivision project (Project) and to prepare this Wetland, Wildlife and Natural Features Report (Report).

The contact information for the Guman and ECOS representatives for this Report is provided below:

Client

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1.1 Purpose

The purpose of the assessment is to compare background information with present-day conditions, ascertain the physical/ecological characteristics and conditions of the Site, identify potential environmental opportunities and constraints associated with development improvements, and determine the presence/absence and approximate extent of the following features:

- Vegetation Communities;
- Natural Landforms;
- Wetland habitat and other waters of the U.S. (i.e., lakes, ponds, streams) regulated under the Clean Water Act;
- Drainages and Riparian Areas;
- Wildlife Habitat:
    - Federal listed threatened and endangered species habitat regulated under the Endangered Species Act;
    - Migratory birds and raptors regulated under the Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BEGPA).

1.2 Site Location

The Site is located approximately 3.60-miles east of Falcon and 5.40-miles southwest of Peyton in El Paso County, Colorado. It is situated south of Judge Orr Road, east of Curtis Road, west of Peyton Highway and north of the Sage Creek subdivision. The Site is specifically located within the west ½ of Section 2, the southwest ¼ of the southeast ¼ of the east ½ of Section 2, and the north ½ of the north ½ of Section 11, in Township 13 South, Range 64 West in El Paso County, Colorado (El Paso County Parcels 4300000534, 43400000537, and 4300000538). The center of the Site is located at approximately Latitude 38.945566˚ north, Longitude -104.529015˚ west at an elevation of approximately

6,700 feet above mean sea level. Refer to Figure 1, USGS Site Location Map and Figure 2, Existing Conditions Aerial Photo.

1.3 Project Description

The Applicant proposes to develop a Sketch Plan for a combination of rural residential and commercial service uses. Please refer to Figure 3, Sketch Plan provided by the Applicant (dated June 7, 2023) and the development application for specific details and descriptions of the Project.

make sure this document is reflecting the Preliminary Plan project not sketch plan

Figure 1

USGS Site Location Map

Figure 1 - USGS Site Location Map

Rodriguez Subdivision

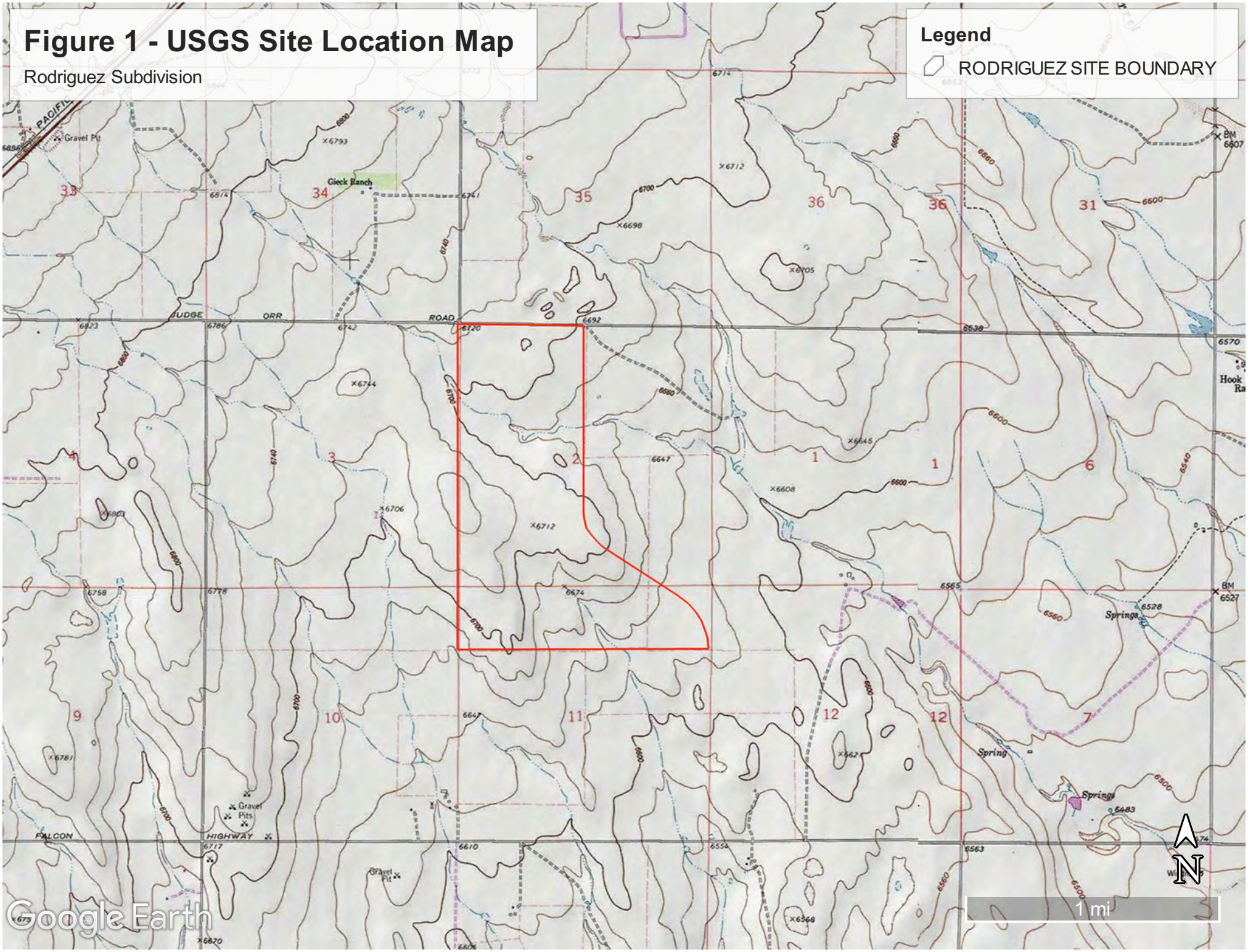


Figure 2
Existing Conditions Aerial Photo

Figure 2 - Existing Conditions Aerial Photo

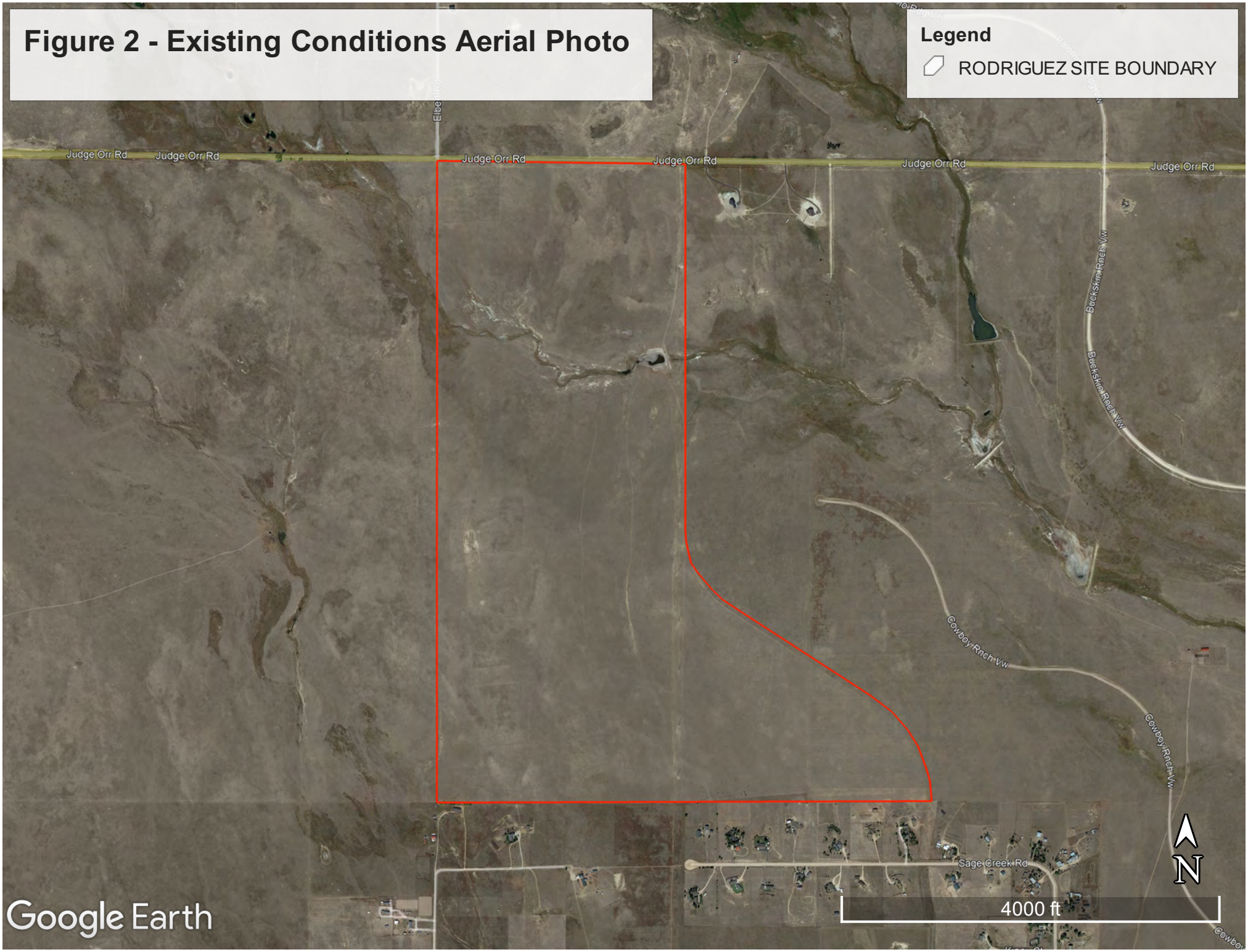


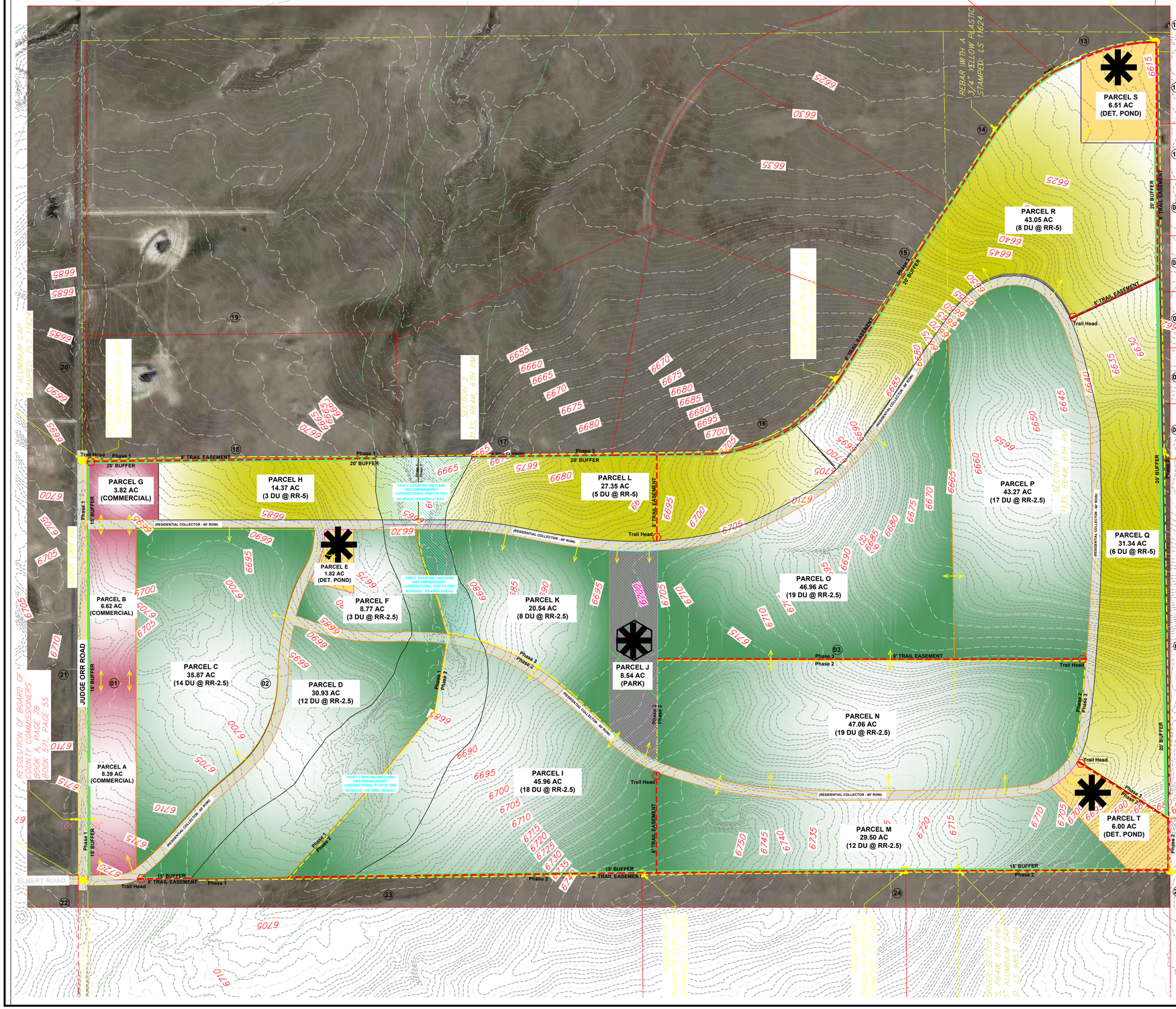
Figure 3
Sketch Plan

Include a figure or exhibit reflecting the preliminary plan too since this is the prelim project you're submitting for

ESTEBAN RODRIGUEZ SUBDIVISION SKETCH PLAN

A PARCEL OF LAND BEING A PORTION OF THE SECTION 2 AND SECTION 11, TOWNSHIP 13 SOUTH, RANGE 64 WEST OF THE 6TH PRINCIPAL MERIDIAN

EL PASO COUNTY, COLORADO



LAND USE SUMMARY TABLE:

LAND USE CATEGORY	ACREAGE	% OF SITE	MAXIMUM UNITS
LOW DENSITY RR-2.5 ZONING	308.86 ac	62.3%	122
LOW DENSITY RR-5 ZONING	116.11 ac	23%	22
COMMERCIAL CS ZONING	18.83 ac	3.9%	n.a.
OPEN SPACE PARK ZONING	8.54 ac	1.8%	n.a.
FLOODPLAIN NO-BUILD/OS	n.a.	n.a.	n.a.
DETENTION NO-BUILD	14.33 ac	2.9%	n.a.
8' TRAIL ESMT. AND TRAIL HEAD	.80 ac	<1.0%	n.a.
15-20' BUFFER	n.a.	n.a.	n.a.
PROPOSED R.O.W.	25.75 ac	5.2%	n.a.
TOTAL:	493.21 ac	100%	144

A. 'FLOODPLAIN - NO BUILD' AREAS ARE INCLUDED WITHIN THE PROPOSED LOT BUT WILL BE DESIGNATED AS "NO BUILD" AREAS FOR EACH LOT WHICH ENCROACHES INTO THE FLOODPLAIN.

B. 'OPEN SPACE' AREAS INCLUDE PARK PARCEL, DETENTION PARCELS, FLOODPLAINS AND 8' TRAIL EASEMENTS.

C. 'R.O.W.' AREAS INCLUDE ALL INTERNAL STREET RIGHTS-OF-WAY, JUDGE ORR ROAD R.O.W., AND STAPLETON ROAD R.O.W.

D. 'TRAIL EASEMENT' INCLUDES A PROPOSED 8' WIDE COUNTY TRAIL EASEMENT TO PROVIDE CONNECTIVITY TO PARK AND GENERAL OPEN SPACE AREAS.

PARCEL SUMMARY

PARCEL	ACREAGE	PROPOSED USE/ZONE	MAXIMUM UNITS
A	8.34	COMMERCIAL	n.a.
B	6.62	COMMERCIAL	n.a.
C	35.87	RR-2.5	14 DU
D	30.93	RR-2.5	12 DU
E	1.82	DETENTION	n.a.
F	8.77	RR-2.5	3 DU
G	3.82	COMMERCIAL	n.a.
H	14.37	RR-5.0	3 DU
I	45.96	RR-2.5	18 DU
J	8.54	PARK	n.a.
K	20.54	RR-2.5	8 DU
L	27.35	RR-5.0	5 DU
M	29.50	RR-2.5	12 DU
N	47.06	RR-2.5	19 DU
O	46.96	RR-2.5	19 DU
P	43.27	RR-2.5	17 DU
Q	31.34	RR--5.0	6 DU
R	43.05	RR-5.0	8 DU
S	6.51	DETENTION	n.a.
T	6.00	DETENTION	n.a.

ADJACENT PROPERTY OWNERS:

KEY	NAME AND ADDRESS
01	Brent Houser Enterprises, LLC 11890 Garrett Road Peyton, CO 80831- 7685 TSN 4300000534
02	Brent Houser Enterprises, LLC 11890 Garrett Road Peyton, CO 80831-7685 TSN 4300000537
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05	Edgar E. Hall 16380 Sagecreek Road Peyton, CO 80831-7928 TSN 4311001001
06	James C. Costa 16440 Sagecreek Road Peyton, CO 80831-7923 TSN 4311001002
07	James R. Dagan 16480 Sagecreek Road Peyton, CO 80831-7923 TSN 4311001003
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10	Daniel McCray 16640 Sagecreek Road Peyton, CO 80831-7910 TSN 4311001006
11	Laurel M. Vickers 16760 Sagecreek Road Peyton, CO 80831-7910 TSN 4311001007
12	JWK Trust 16850 Sagecreek Road Peyton, CO 80831-7910 TSN 4312001009
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16	Walker Blount 605 Ocean Club Court Fernandina Beach, FL 32034 TSN 4300000619
17	Dwayne Lee Simmons 2039 N. Academy Blvd. Colorado Springs, CO 80909 TSN 4300000534
18	Adam C. Moody 15365 Judge Orr Road Peyton, CO 80831 TSN 4300000528
19	David Fitzpatrick 15525 Judge Orr Road Peyton, CO 80831-8567 TSN 4300000569
20	Andrew Townsend 16360 Judge Orr Road Peyton, CO 80831 TSN 4200000454
21	Charlotte A. Howard 3232 Muirfield Drive Colo. Springs, CO 80907-7805 TSN 4200000362
22	Jane Davis Living Trust 9060 Elbert Road Peyton, CO 80831-8319 TSN 4200000470
23	Gorilla Capital Co. 1342 High Street Eugene, OR 97041 TSN 4300000599
24	Gorilla Capital Co. 1342 High Street Eugene, OR 97041 TSN 4300000602
25	7120 SUDIEV, LLC 7120 Falcon Grassy Heights Peyton, CO 80831-7995 TSN 4300000496

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PLAN NORTH:

PROJECT NAME: ESTEBAN RODRIGUEZ SUBDIVISION

PROJECT ADDRESS: JUDGE ORR ROAD PEYTON, CO 80831

PROJECT DESCRIPTION: 496.25 ACRE SKETCH PLAN

DATE:	05/16/2023
DESIGNED:	WFG
CHECKED:	GEM

WILLIAM FREDERICK GUMAN LA-167 Colorado Cross of Icensure STATE OF COLORADO LICENSED LANDSCAPE ARCHITECT

REVISIONS:

DATE:	BY:	DESCRIPTION:
NOTES:		

PLAN SCALE: 1" = 300' (OR AS NOTED ON PLAN)

SHEET TITLE: SKETCH PLAN

SHEET NO. Figure 3

FILE NO. FILE#

2.0 METHODOLOGY

ECOS performed an office assessment in which available databases, resources, literature and field guides on local flora and fauna were reviewed to gather background information on the environmental setting of the Site. We consulted several organizations, agencies, and their databases, including:

- Colorado Department of Agriculture (CDA) Noxious Weed List;
- Colorado Natural Heritage Program (CNHP);
- Colorado Oil and Gas Conservation Commission (COGCC) GIS Online;
- Colorado Parks and Wildlife (CPW);
- El Paso County Master Plan;
- El Paso County, Sub-Area Plan (provided by Client as applicable);
- Google Earth current and historic aerial imagery;
- Survey of Critical Biological Resources, El Paso County, Colorado;
- Survey of Critical Wetlands and Riparian Areas in El Paso and Pueblo Counties, Colorado;
- U.S. Army Corps of Engineers (USACE) 1987 Corps of Engineers Wetlands Delineation Manual;
- USACE 2008 Interim Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Great Plains Region;
- U.S. Department of Agriculture (USDA) PLANTS Database;
- U.S. Department of Agriculture, Natural Resources Conservation Service Soil Survey;
- U.S. Fish and Wildlife Service (USFWS) Region 6 data;
- USFWS Information, Planning, and Conservation (IPaC) database;
- USFWS National Wetland Inventory (NWI);
- U.S. Geological Survey (USGS); and
- Site-specific background data provided by Guman and their consulting Team, including topographic base mapping, site development plans, and other data pertinent to the assessment.

Following the collection and review of existing data and background information, ECOS conducted a field assessment of the Site on May 23, 2023. The purpose of the assessment was to compare background information with present-day conditions, ascertain the physical/ecological characteristics and conditions of the Site, identify potential environmental opportunities and constraints associated with development improvements, and determine the presence/absence and approximate extent of the following features:

- Vegetation Communities
- Natural Landforms;
- Wetland habitat and other waters of the U.S. (i.e., lakes, ponds, streams) regulated under the Clean Water Act;

- Drainages and Riparian Areas; and
- Wildlife habitat, including:
  - Federal listed threatened and endangered species habitat regulated under the Endangered Species Act;
  - Migratory birds and raptors regulated under the Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BEGPA).

During the office and on -site assessment ECOS sketched and/or mapped the above features (as applicable) with a GPS on a topographic base map provided by Guman and/or on a Google Earth aerial image of the Site. ECOS utilized GPS to document the boundaries/locations of significant natural features as deemed necessary. Representative photographs were taken to assist in describing and documenting Site conditions.

3.0 ENVIRONMENTAL SETTING

The Site is located in the Southwestern Tablelands Ecological Region (Chapman et al, 2006), which is primarily comprised of sub-humid grassland and semiarid rangeland. More specifically, the Site is located in the Foothills Grassland sub-region (26j) which contains a mix of grassland types with some small areas of isolated tallgrass prairie species that are more common much farther east. The proximity to runoff and moisture from the Front Range and the more loamy, gravelly, and deeper soils are able to support more tallgrass and midgrass species than neighboring ecoregions. Big and little bluestem and switchgrass occur, along with foothill grassland communities. The annual precipitation of 14 to 20 inches tends to be greater than in regions farther east. Soils are loamy, gravelly, moderately deep, and mesic. Rangeland and pasture are common , with small areas of cropland. Urban and suburban development has increased in recent years, expanding out from Colorado Springs and the greater Denver area.

The Site is located within the CNHP Kelso's Prairie Potential Conservation Area (PCA) according to the CNHP (CNHP, 2022), which is described as comprising B2 (Very High Biodiversity Significance) consisting of low rolling hills of tallgrass, midgrass, and shortgrass prairie with swales containing wet meadows and small ephemeral drainages that form a relatively intact landscape in north-central El Paso County. Located south and west of the Black Forest, the site encompasses the upper watershed of Black Squirrel Creek and its tributaries. Within the Kelso's Prairie site, two grassland communities have been described including and the one south of Highway 24 and along both sides of Judge Orr Road includes the Davis Site. This grassland includes a fairly large occurrence of a big bluestem and little bluestem tallgrass prairie (*Andropogon gerardii* - *Schizachyrium scoparium*) which occurs in patches within about a five square mile area. The occurrence appears to be in good condition with relatively few weeds and sustainable grazing practices. Other grasses present include prairie sandreed (*Calamovilfa longifolia*), blue grama (*Bouteloua gracilis*), and scattered Indian grass (*Sorghastrum nutans*). Perhaps the most striking aspect of the prairie along Judge Orr Road is the abundance of creeks and wetlands. These creeks and wetlands are supported by regional shallow groundwater resulting from

groundwater recharge in the Black Forest to the north. The land gently slopes to the southeast forming the headwaters of Black Squirrel Creek. Many small drainages flow from the area and can form wide wet meadows of up to 40 acres in size. These many drainages and wet meadows support a mosaic of wetland plants and communities including Baltic rush (*Juncus balticus* var. *montanus*), Nebraska sedge (*Carex nebrascensis*), clustered sedge (*C. praegracilis*), woolly sedge (*C. lanuginosa*), Crawe sedge (*C. crawei*), three-square bulrush (*Scirpus pungens*), saltgrass (*Distichlis spicata*) and the European pasture grass redtop (*Agrostis gigantea*). These communities can form monotypic stands or intermingle with adjacent types.

No Critical Habitat, Wildlife Refuges or Hatcheries are present in the vicinity of the Site according to the USFWS IPaC Trust Resources Report in Appendix C (USFWS, 2023a).

3.1 Topography / Natural Landform

The topography of the Site trends from the northwest to the southeast and is formed by three gentle ridges along the north, central and southwest portions of the Site, which form natural drainage depressions in the north-central and southeastern portions of the Site. It ranges from a high elevation of approximately 6,720 feet above mean sea level (AMSL) in the northwestern corner to a low elevation of approximately 6,630 feet AMSL in the southeastern corner of the Site.

3.2 Soils

ECOS utilized the USDA, Natural Resource Conservation Service (NRCS) Web Soil Survey (USDA, NRCS, 2023) to determine the types of soils present and if hydric soils are present within the Site, as this data assist in informing the presence/absence of potential wetland habitat regulated under the Clean Water Act. The soils data were also utilized to supplement the field observations of vegetation, as the USDA provides correlation of native vegetation species by soils types. Please refer to the Custom Soil Resource Report for the Site in Appendix A.

The Site is comprised of the following soil types:

Map Unit Symbol & Name

- 8 – Blakeland loamy sand, 1 to 9 percent slopes;
- 19 - Columbine gravelly sandy loam, 0 to 3 percent slopes;
- 29 - Fluvaquentic Haploquolls, nearly level;
- 95—Truckton loamy sand, 1 to 9 percent slopes; and
- 96—Truckton sandy loam, 0 to 3 percent slopes.

Pursuant to the Custom Soil Resource Report:

- The Blakeland loamy sand is not hydric; however, the 1% inclusion of Pleasant soil is hydric;

- The Columbine gravelly sandy loam is not hydric; however, the 1% inclusion of Fluvaquentic Haplaquolls and 1% inclusion of Pleasant soils are both hydric;
- The Fluvaquentic Haplaquolls is hydric; and the 1% inclusion of Haplaquolls soil is hydric as well;
- The Truckton loamy sand, 1 to 9 percent slopes is not hydric and none of the soils types listed as inclusion are hydric;
- The Truckton sandy loam, 0 to 3 percent slopes is not hydric; however, the 2% inclusion of Pleasant soil is hydric

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS, 1994) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

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

3.3 Vegetation

3.3.1 Short- and Mixed-grass Prairie

The vegetation within the Site is primarily comprised of herbaceous short-grass prairie species with herbaceous wetland vegetation in the drainages and ephemeral swales flowing through the Site. Given the presence of certain mid-grass prairie species mixed throughout the shortgrass prairie, we have referred to the vegetation community as “short- and mixed-grass prairie” (refer to Figure 4, Vegetation Community Map). The dominant prairie grass species is blue grama (*Bouteloua gracilis*), with occasional little bluestem (*Schizachyrium scoparium*) and Western wheatgrass (*Pascopyrum smithii*). The other most common associative prairie species are prairie aster (*Machaeranthera tenacetifolia*), smooth brome (*Bromus inermis*), fringed sage (*Artemisia frigida*), yucca (*Yucca spp.*) and prickly pear cactus (*Opuntia* sp.). Other species include Wood’s rose (Rosa woodsii), false indigo bush (*Amorpha fruticosa*), sticky geranium (*Geranium viscosissimum*) and yarrow (Achillea millefolium). The Site is moderately grazed and there are scattered weeds, including Canada thistle (*Cirsium arvense*), musk thistle (*Carduus nutans*), Scotch thistle (*Onopordum acanthium*), common mullein (*Verbascum thapsus*), horseweed (*Conyza canadensis*) and field bindweed (*Convolvulus arvensis*).

3.3.2 Hydrophytic Vegetation

Discontinuous patches of hydrophytic vegetation (wetland vegetation) is present within the North-central ephemeral drainage where saturated (hydric) soils are present. Dominant wetland vegetation includes Nebraska sedge (*Carex nebrascensis*), common threesquare bulrush (*Schoenoplectus americanus*) and spikerush (*Eleocharis palustris*) with inclusions of Baltic rush (*Juncus balticus*), water mint (*Mentha aquatica*), narrowleaf cattail (*Typha angustifolia*) and Canada thistle (*Cirsium arvense*). Willow is notably absent. Dominant upland vegetation at the margin of the wetland boundary includes little bluestem and blue grama (*Bouteloua gracilis*), upland grasses, fringed sage and other miscellaneous upland weeds.

3.3.2 Riparian Vegetation

Riparian habitat within the Site is limited to one singe drainage in the North-central portion of the Site which consists of more robust short-grass prairie where moist, mesic soils are present adjacent to wetlands (described above). This North-central drainage does not support any riparian trees or shrubs.

Figure 4

Vegetation Community Map

Figure 4 – Vegetation Community Map

Source: Google Earth Aerial Image, 10/31/2022 & Ecosystem Services, LLC Site Assessment, 5/23/2023

3.4 Wetland Habitat and Waters of the U.S.

3.4.1 Methodology

ECOS utilized the USGS 7.5-minute topographic mapping, historic and current Google Earth aerial photography; the National Wetland Inventory (NWI) Wetlands Mapper (USFWS 2023) and the Colorado Wetland and Information Center – Wetlands Mapper (CNHP, 2022); and detailed Project topographic mapping (if available) to preliminarily identify potential wetland habitat and waters of the U.S. (WOTUS) on the Site. Refer to Figure 5, National Wetland Inventory Map and Figure 6, CNHP Riparian Habitat Map. Additionally, ECOS performed a jurisdictional delineation with GPS survey to identify WOTUS boundaries. Refer to Figure 7, WOTUS Survey Map.

The mapping data above was proofed during the field assessment and a delineation was conducted to determine the presence/absence of potential WOTUS.

The USACE wetland delineation methodology was employed to document the three field indicators (parameters) of wetland habitat (i.e., wetland hydrology, hydric soils and a predominance of hydrophytic vegetation as explained in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and supplemented by the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Interim Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Great Plains Region* (USACE, 2008).

3.4.2 Office Assessment Findings

USGS Mapping: As referenced in *Section 3.1 Topography*, the Site topography forms natural drainage depressions in the north-central and southeastern portions of the Site. USGS Map indicates the presence of intermittent streams in both of these drainages, therefore, there is a probability that they may support wetland vegetation if the sustaining hydrology is sufficient. Refer to Figure 1, USGS Site Location Map.

Google Earth aerial imagery review: ECOS reviewed the Site using the time-lapse function in Google Earth (GE) to get a look back in time to 1985. The timeline review indicates the presence of a stock pond on the east side of the north-central drainage, as well as vegetation signatures that appear to be indicative of herbaceous wetland vegetation. No other potential wetland habitat or water bodies (natural or manmade) are evident on the aerial imagery. Refer to Figure 2, Rodriguez Existing Conditions Aerial Photo and Figure 7, Rodriguez WOTUS Survey Map.

The North-Central Drainage is the same drainage that runs through the Davis Site (South-Central Drainage) located to the northwest and the Saddlehorn Site located directly to the west. Aerial imagery indicated that the North-Central Drainage has a discontinuous surface water connection to Black Squirrel Creek. Persistent surface water present in the upper reaches of this watershed/drainage system form defined channels that then transition into dry washes and alluvial

fans where water infiltrates into groundwater through the sandy substrate. Creek channels downstream of the sandy washes are nebulous.

USFWS National Wetland Inventory (NWI) Wetlands Mapper: The NWI Wetlands Mapper indicates the following:

- North-Central drainage: The NWI indicates the potential presence of Palustrine (freshwater) Emergent Persistent Temporary Flooded (PEM1A) wetland habitat along the length of this drainage, as well as a Palustrine Unconsolidated Shore Seasonally Flooded (PUSC) pond at the eastern end of this drainage.
- Southeastern drainage: The NWI indicates the potential presence of a Riverine Intermittent Streambed Seasonally Flooded (R4SBC) wetland habitat along the length of this drainage.

Refer to Figure 5, National Wetland Inventory Map.

Colorado Wetland and Information Center – Wetlands Mapper: CNHP has incorporated some of the data provided by the NWI for wetland habitat has produced updated photo-interpretation of wetland mapping in several areas. On this Site, that data concurs with the NWI data summarized above. Refer to Figure 5, National Wetland Inventory Map and Figure 6, CNHP Riparia Habitat Map.

USDA NRCS Web Soil Survey: The custom soil report generated for the Site via the NRCS Web Soil Survey (USDA NRCS, 2023) identifies the presence of hydric (wetland) soil (refer to Section 3.2 and Appendix A). The USDA NRCS Soil Survey data indicate that the Fluvaquentic Haplaquolls soil type is a hydric soil and a few minor inclusions of hydric soil (1 – 2 %) are components of the Blakeland, Columbine and Truckton loamy sand (0 – 3% slopes) soil types. Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation (i.e., wetland vegetation).

3.4.3 Field Assessment Findings

The field assessment revealed the presence of one potentially jurisdictional WOTUS feature in the North-Central drainage (Figure 7, WOTUS Survey Map). This natural feature meets the wetland indicators and criteria that the Corps uses to assert jurisdiction pursuant to the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and associated *Interim Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Great Plains Region* (USACE, 2008). However, the final jurisdictional determination be made by the USACE.

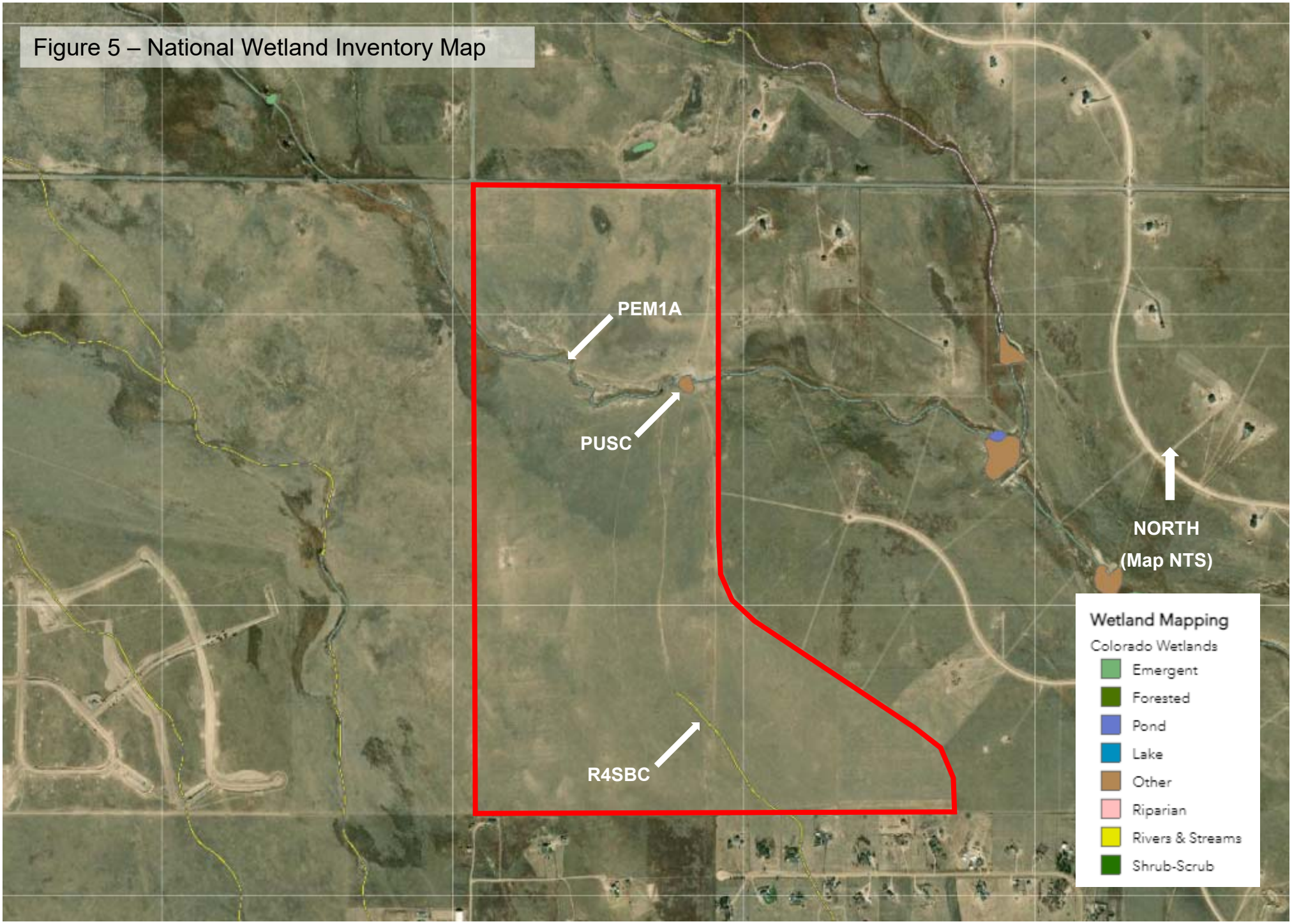
The potentially jurisdictional WOTUS feature data is summarized below, with an explanation of the field indicators (parameters) of wetland habitat that were observed and documented by ECOS.

North-Central Drainage - The data for this branch is summarized on the W1-WET datasheet in Appendix D. The NWI data correctly labels this branch as PEM1A. It is a broad, wetland swale within a defined valley comprised of Palustrine

Emergent vegetation including Nebraska sedge, common threesquare bulrush and spikerush with inclusions of Baltic rush, water mint, narrowleaf cattail and Canada thistle along the fringe. It is underlain by organic matter and sand that exhibits hydric hue, values and chroma in the soil matrix. At the time of the delineation, surface water, water table and saturation was present at or within 6-inches of the soil surface. This area meets all 3 parameters for jurisdictional wetland habitat.

Figure 5
National Wetland Inventory Map

Figure 5 – National Wetland Inventory Map



Source: Colorado Natural Heritage Program (CNHP) Wetland Mapper / U.S fish and Wildlife Service National Wetland Inventory (NWI)

3.6 Riparian Habitat

The Colorado Wetland Information Center – Wetlands Mapper (CNHP, 2023) includes the option for illustrating potential riparian habitat based on mapping produced by Colorado Parks and Wildlife (CPW). Refer to Figure 6, CNHP Riparian Habitat Map. The CPW Riparian Habitat mapping indicates the following:

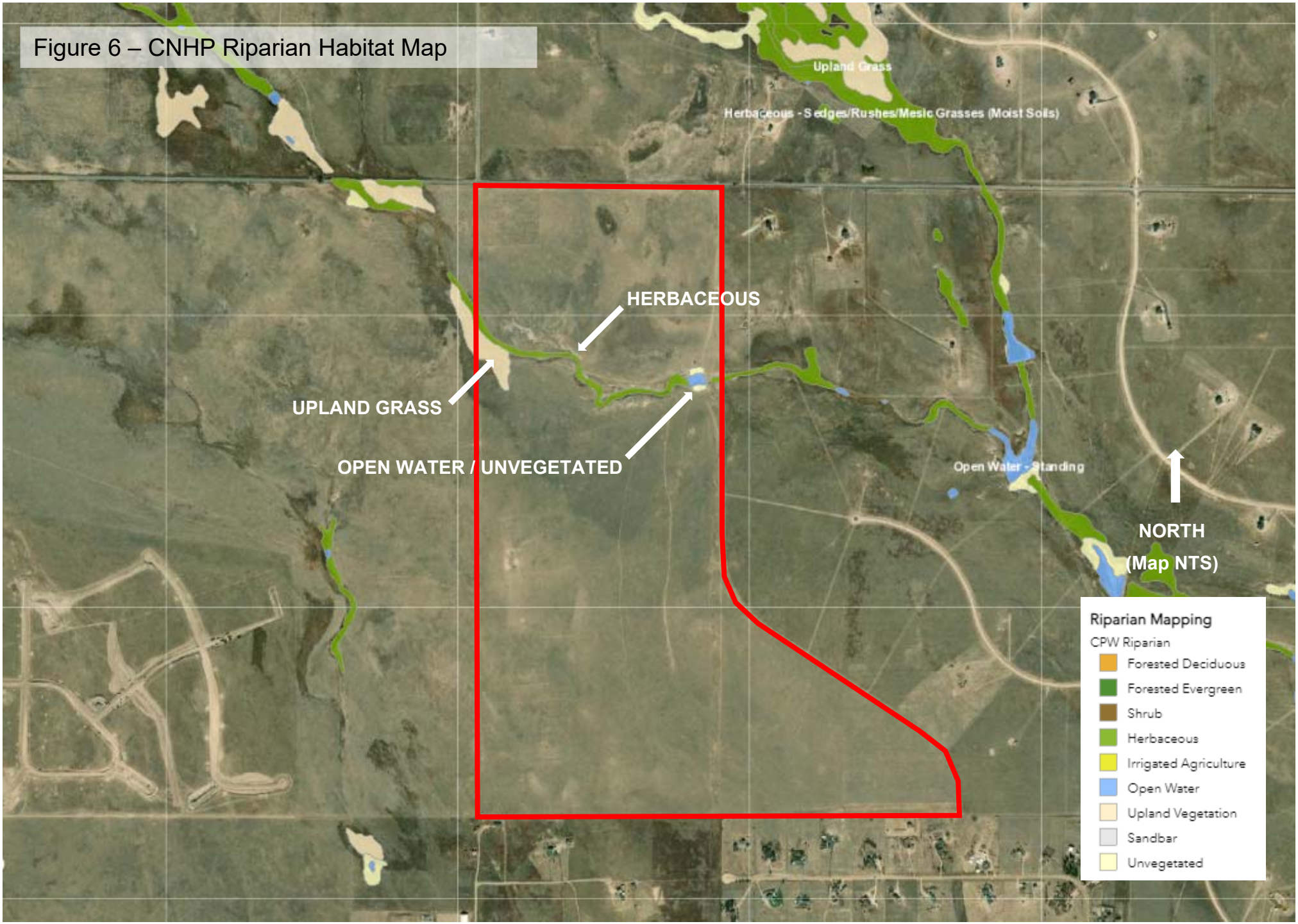
- North-Central drainage: The CPW data indicate the potential presence of:
    - Herbaceous Sedges/Rushes/Mesic Grasses (Moist Soils) along the length of this drainage;
    - Upland Grass adjacent to the upstream, western end of the drainage; and
    - Open Water within the pond at the eastern end of this drainage flanked by Unvegetated land.
- Southeastern drainage: The CPW data do not identify potential riparian habitat along this drainage.

Refer to Figure 6, CNHP Riparian Habitat Map.

ECOS found the CNHP data to be accurate during the field assessment except the patch of Upland Grass located on the upstream, south side of the North-Central drainage consists of a lush mosaic of Herbaceous Sedges/Rushes/Mesic Grasses (i.e., Wetland) and Upland Grasses supported by high groundwater.

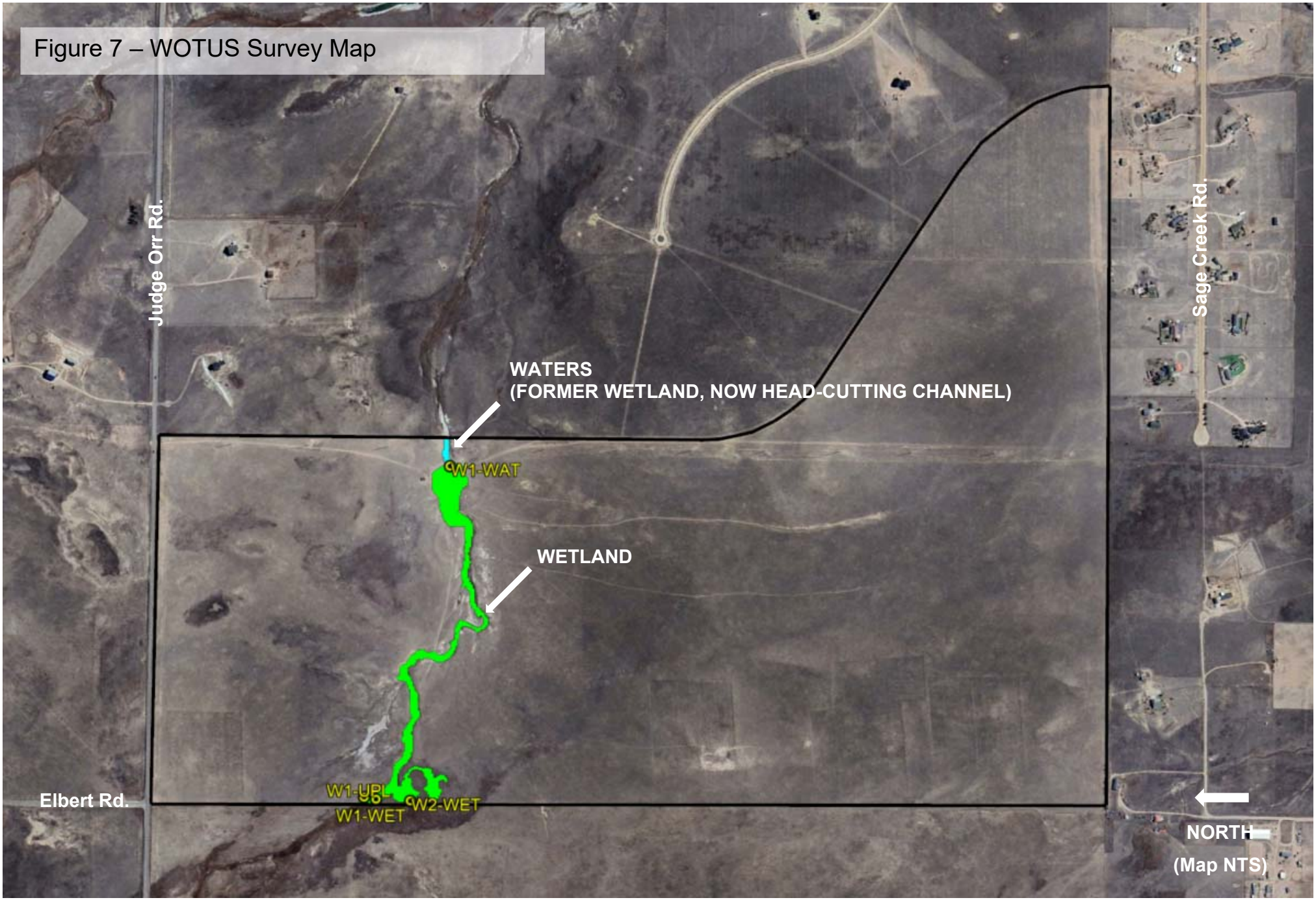
FIGURE 6
CNHP Riparian Habitat Map

Figure 6 – CNHP Riparian Habitat Map



Source: Colorado Natural Heritage Program (CNHP) Wetland Mapper

FIGURE 7
WOTUS Survey Map



Source: Google Earth Aerial Image, 10/31/2023 & Ecosystem Services, LLC Wetland Delineation, 5/23/2023

3.5 Wildlife

The stated purpose and intent of the “El Paso County Development Standards” wildlife section is to ensure that proposed development is reviewed with consideration of the impacts to wildlife and wildlife habitat, and to implement the provisions of the Master Plan (El Paso County, 2021). The two primary vegetation types within the Site are herbaceous prairie and wetlands. ECOS has determined that the wildlife impact potential for development of this stand-alone Site is expected to be moderate to low, as the Site currently provides poor to moderate habitat for wildlife. Taken in a regional, watershed or larger landscape context, as more and more prairie is developed over time impacts to wildlife are expected to be moderate to high as wildlife run out of space and habitat.

The Site provides habitat for prairie species such as pronghorn (*Antilocapra americana*), black-tailed prairie dog (*Cynomys ludovicianus*), thirteen-lined ground squirrel (*Ictidomys tridecemlineatus*), voles (*Microtus spp.*) and jackrabbit (*Lepus townsendii*). The Site also provides foraging and breeding habitat for predators such as coyote and fox. The Site also provides good habitat for reptiles and moderate habitat for amphibians such as Woodhouse toad (*Anaxyrus woodhousii*).

The USFWS IPaC Trust Resources Report (USFWS, 2023a) (Appendix B) reports that bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*) and ferruginous hawk (*Buteo regalis*) may utilize the area. The Site provides limited tree nesting habitat for raptors; however, ferruginous hawks may also use ground nests.

The Site contains no Critical Habitat, Wildlife Refuges or Hatcheries according to the USFWS IPaC Trust Resources Report (USFWS, 2023a) (Appendix B).

The project proposes to develop most of the prairie; however, the drainages and immediately adjacent prairie would be preserved as Open Space. A noxious weed management plan will be implemented per State and County requirements to improve wildlife habitat; and a native plant re-vegetation plan for the Open Space is recommended to provide additional benefit to wildlife habitat.

4.0 FEDERAL LISTED SPECIES

A number of species that occur in El Paso County are listed as threatened and endangered (T&E) by the USFWS under the Endangered Species Act (ESA) (USFWS 2023). ECOS compiled the data regarding T&E species for the Site in Table 3 based on the Site-specific, USFWS IPaC Trust Resources Report we ran for the Project (Appendix B) and our onsite assessment. ECOS has provided our professional opinion regarding the probability that these species may occur within the Site and their probability of being impacted by the Project.

The likelihood that the Project would impact any of the species listed below is insignificant to none. Most are not expected occur in the project area and no downstream impacts are expected. The USFWS also states that there is no Critical Habitat for T&E species in the Site locations.

TABLE 3 - FEDERAL LISTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT

Species	Status	Habitat Requirements and Presence	Probability of Impact by Project
FISH			
Greenback cutthroat trout (*Oncorhynchus clarki stomias*)	Threatened	Cold, clear, gravely headwater streams and mountain lakes that provide an abundant food supply of insects.	None. Suitable habitat does not exist on the Site.
Pallid sturgeon (*Scaphirhynchus albus*)	Endangered	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.	None. The proposed project will not affect any of the listed river basins.
BIRDS			

TABLE 3 - FEDERAL LISTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT			
Species	**Status**	**Habitat Requirements and Presence**	**Probability of Impact by Project**
Eastern Black Rail (*Laterallus jamaicensis ssp. Jamaicensis*)	Threatened	Habitat includes tidally or non-tidally influenced marshes which range in salinity from salt to brackish to fresh. It requires dense overhead perennial herbaceous cover with underlying soils that are moist to saturated (occasionally dry) interspersed with or adjacent to very shallow water (typically ≤ 3 cm). Eastern black rails depend on this dense cover throughout their life cycle and is their primary strategy to avoid predation.	Insignificant. Suitable, dense, overhead, perennial, herbaceous cover and shallow water are minimal in the wetland habitat on the Site.
Piping plover (*Charadrius melodus*)	Threatened	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska.	None. The proposed project will not affect any of the listed river basins.
MAMMALS			

TABLE 3 - FEDERAL LISTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT			
Species	**Status**	**Habitat Requirements and Presence**	**Probability of Impact by Project**
Gray Wolf (*Canus lupis*)	Endangered	Inhabits a wide range of habitats including temperate forests, mountains, tundra, taiga, and grasslands. Lone, dispersing gray wolves may be present throughout the state of Colorado.	None. USFWS Critical Habitat has been established by the USFWS, but the location is unavailable. Packs or lone, dispersing wolves do not inhabit urban areas. This species only needs to be considered if the Project activity includes a predator management program, which it does not.
INSECTS			

TABLE 3 - FEDERAL LISTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT			
Species	**Status**	**Habitat Requirements and Presence**	**Probability of Impact by Project**
Monarch butterfly (*Danaus plexippus*)	Candidate	Multigenerational migrant that breeds throughout North America and overwinters in dense congregations in Mexican montane fir forests. The larval hostplant is milkweed (*Asclepias* spp.). Habitat includes areas with nectar for feeding and/or milkweed for laying eggs, especially grasslands and wetlands. Breeding habitat threats are widespread native grassland loss and herbicide use. In Colorado, they are present in low numbers from May to September.	Insignificant. Milkweed is not present. Project impacts are undetectable relative to threats across this species' huge range. Potential impacts could be mitigated by limiting herbicide use and planting native flowering species, especially milkweed.
PLANTS			

TABLE 3 - FEDERAL LISTED SPECIES POTENTIALLY IMPACTED BY THE PROJECT			
Species	**Status**	**Habitat Requirements and Presence**	**Probability of Impact by Project**
Ute ladies'-tresses orchid (*Spiranthes diluvialis*)	Threatened	Primarily occurs along seasonally flooded river terraces, sub-irrigated or spring-fed abandoned stream channels or valleys, and lakeshores. May also occur along irrigation canals, berms, levees, irrigated meadows, excavated gravel pits, roadside borrow pits, reservoirs, and other human-modified wetlands.	None. Wetland areas on Site are poor quality habitat for this species and will not be impacted. The Site elevation ranges from 6,720 to 6,630 feet AMSL, which is higher than the 6,500-foot upper elevation limit documented for the species and recommended for conducting surveys by the USFWS.

5.0 RAPTORS AND MIGRATORY BIRDS

Raptors and most birds are protected by the Colorado Nongame Wildlife Regulations, as well as by the federal Migratory Bird Treaty Act. Additionally, eagles are protected by the Bald and Golden Eagle Protection Act (BGEPA).

5.1 COGCC Database

ECOS utilized the Colorado Oil and Gas Conservation Commissions (COGCC) GIS Online data (https://cogccmap.state.co.us/cogcc_gis_online/) (COGCC, 2023) to screen the Site for potential raptor nests. No raptor nests have been mapped within one mile of the Site (COGCC, 202). The closest raptor nests to the Site are one Golden Eagle active nest and one Ferruginous Hawk active nest, both of which are located 2.39 miles east/northeast of the eastern edge of the Site.

5.2 USFWS IPaC Data

The USFWS IPaC data for the Site indicates the probability of presence of the four bird species (refer to Appendix B) in the vicinity of the Site. The birds listed by IPaC are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in the Project location. The 1988 amendment to the Fish and Wildlife Conservation Act mandates the USFWS to “identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the ESA. "Birds of Conservation Concern 2021 (BCC 2021)" is the most recent effort to carry out this mandate. The birds listed by IPaC include:

- Bald Eagle (*Haliaeetus leucocephalus*) - This is not a BCC but is vulnerable and warrants attention because of the BGEPA.
- Ferruginous Hawk (*Buteo regalis*) - This is a BCC only in particular Bird Conservation Regions (BCRs) including Colorado. Per the USFWS Environmental Conservation Online System data (USFWS 2022b) (https://ecos.fws.gov/ecp/species/6038), ideal habitat for Ferruginous Hawks is grassland and shrub-steppe habitat including pastures, hayland and cropland. Their nests can be found in trees and large shrubs and on roofs, utility structures and artificial platforms, or near the ground on river cutbanks, or less frequently other ground locations such as rockpiles and riverbed mounds. ECOS has observed their nests open prairie habitat in this vicinity.
- Long-eared Owl (*Asio otus*) - This is a BCC throughout its range in the continental USA and Alaska. Per the USFWS Per the Nature Serve Explorer database (Nature Serve 2022) (https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.101120/Asio_otus) this species habitat is deciduous and evergreen forests, orchards, wooded parks, farm woodlots, river woods, desert oases. Wooded areas with dense vegetation needed for roosting and nesting, open areas for hunting; therefore, it is often associated with deciduous woods near water

in West. The Site does not comprise suitable habitat for roosting and nesting for this species but may provide hunting opportunities. However, the probability of presence in the Project vicinity is limited to the 2nd week of May.

5.3 Field Assessment

The prairie, riparian corridors and wetland habitat provides ground-nesting and foraging habitat for migratory birds such as western meadowlark (*Sturnella neglecta*). No existing nest sites or prairie dog burrows for raptors, including burrowing owl were found during the Site visit.

6.0 SUMMARY OF IMPACTS

6.1 Vegetation

The vegetation within the Site is primarily comprised of herbaceous shortgrass prairie species. Given the presence of certain tallgrass prairie and non-native species mixed throughout the shortgrass prairie, we have referred to the vegetation community as “short- and mixed-grass prairie”. Wetland vegetation is comprised primarily of emergent, herbaceous, hydrophytic species in the ephemeral drainages and swales. Riparian habitat within the Site is comprised of upland grassland, herbaceous wetland species with small pockets of shallow open water. Refer to Figure 6, CNHP Riparian Habitat Map. Trees and shrubs are ~~primarily~~ absent. Refer to Figure 4, Vegetation Community Map.

The short and mixed grass prairie will be the primary vegetation/habitat type impacted by the proposed development. The proposed residential parcels are all planned to be low-density. Tthat should provide ample opportunity to preserve high quality, native habitat within private lots if building envelopes/disturbance footprints are limited. Parcel J, the only park proposed, will have no value for wildlife if isolated within a sea of housing and if completely developed for tot-lots, field sports, etc. If, however, it were to be located adjacent to the North-Central drainage floodplain and some portions of it were preserved as native habitat, this park would provide open space functions for wildlife and feel more expansive. The proposed Commercial parcels and the internal road system will have a maximum impact on short and mixed grass prairie (e.g., 100% of area beneath their footprint). The three Detention Ponds will result in the loss/impact primarily of short and mixed grass prairie. The Parcel E Detention Pond stormwater outfall will likely cause minor impacts to wetland habitat where it feeds into the North-Central drainage. Detention Pond impacts could be temporary and mitigated if prairie, riparian and wetland habitat are restored after construction.

In addition to preserving the highest value existing native vegetation on public and private open space, in order to reduce overall direct impacts from the development, proposed landscaping (private and public) should consist of native species from the same ecosystem that provide food and cover for wildlife. High, solid fences if proposed are a major impediment and impact wildlife movement through the landscape. Short, wildlife friendly fences that allow large and small

species to move freely are recommended wherever fences are desired which will allow future residents to enjoy wildlife experiences in their everyday lives.

Over 80 percent of all wildlife species use riparian areas during some part of their life cycle. As such, floodplains, riparian areas including wetlands that together form linear natural corridors (i.e., greenways) should not be impacted by development and left intact. If necessary, road, trail and utility corridors (i.e., crossings) that must cut through riparian areas should be avoided or minimized to only a few locations where the riparian corridor are the narrowest and wetlands are absent. Any proposed crossings should be designed perpendicular to greenways. Greenways are ideal locations for trails that run parallel with the floodplain/riparian corridor to provide future neighborhood residents with positive natural outdoor and wildlife experiences such as bird watching (i.e., ecological benefits). The layout of the development at a sketch plan level is nebulous regarding the avoidance and minimization of impacts to greenways. During more detailed preliminary and final design, all man-made structures, including detention ponds should avoid impacting riparian areas and wetlands.

The creek channel at the downstream, eastern most end of the North-Central drainage below the stock pond was previously a wet swale. This portion of the creek is head-cutting severely, a result of recent large rainfall events. This headcut is about to completely breach and drain the stock pond and start migrating up the channel. This headcut, if left unaddressed, will completely degrade this valuable aquatic/open space resource, including all abutting wetlands and should be stabilized immediately.

Detention/water quality ponds, where required should be located adjacent to riparian areas and vegetated to the maximum extent possible utilizing native riparian and wetland vegetation in the pond bottoms; upland grasses, shrubs and trees along side-slopes, spillways and run-downs to expand riparian habitat for wildlife. Outfall structures from detention ponds with scour aprons are typically designed to extend into and impact wetlands and stream beds. These impacts can be mitigated by locating the outfall outside of riparian and/or wetland habitat then creating a riparian/wetland swale that extends to the receiving stream.

Soils in this region are very sandy and highly permeable which provides ideal conditions for implementing Low Impact Development (LID) systems and practices that mimic natural processes that result in the infiltration, evapotranspiration or use of stormwater throughout a development rather than a waste product. LID practices such as bioretention facilities, wetland swales, rain gardens, rain barrels and permeable pavements implemented throughout the development are recommended to help improve water quality through groundwater infiltration and to reduce and delay the quantity and erosive power of stormwater discharging from traditional single point detention ponds into natural streams.

Ground disturbance /removal of vegetation and exposure of soil instigates the invasion of common and noxious weeds, one of the most detrimental processes to the quality of any kind of habitat. As such, minimization of ground disturbing

activities that compact or remove native vegetation during construction is recommended. Thereafter, control of common, noxious weeds and non-native species in all areas (existing or landscaped) should be a priority during and after construction and as part of the long-term private residence and HOA maintenance of the Site. If native vegetation is preserved and weeds are managed, the loss of the existing habitat is minimized.

Overall impacts to vegetation communities that provide habitat for wildlife can be offset/mitigated by thoughtful design; restrictions that minimize impacts to prairie through the employment of building envelopes; implementation of native planting and seeding requirements on private and public land; ongoing weed management; and long-term preservation of large, contiguous open space and greenways that limit crossings and fragmentation.

6.3 Wetland Habitat and Waters of the U.S.

There is one WOTUS features on the Site, the North-Central drainage. ECOS delineated the boundaries of this WOTUS feature pursuant to current USACE methodology to assist the planning and design Team in Site planning. The Sketch Plan does not reflect the locations of these delineated WOTUS features as it was prepared prior to the delineation. Therefore, during the final Site Plan design, the Project Team will incorporate avoidance and minimization of WOTUS impacts to the extent possible to meet the Least Environmentally Damaging and Practicable Alternative (LEDPA) requirements of Section 404(b)(1) of the Clean Water Act (CWA).

Based on the current Sketch Plan, Residential Parcels D, F, I and K contain WOTUS. Detention Pond Parcel E will likely result in minor loss/impact of WOTUS from the construction of the outfall into the North-Central drainage. The internal Residential Collector road system as currently laid out will have a “crossing” impact on North-Central drainage unless it is free-spanned by a bridge. It is highly likely that “drainage improvements” like drop or grade control structures will be required by the County to decrease velocity and shear stress within the North-Central drainage which will result in additional impacts to WOTUS. Refer to Figure 3, Sketch Plan and Figure 7, WOTUS Survey Map.

If the impacts remain as proposed in the current Sketch Plan, the Project will require a CWA Section 404 permit. The specific type of permit cannot be identified until the final Site Plan is complete and final impacts are assessed. ECOS will work with the planning and design Team to assist in incorporating avoidance and minimization of WOTUS impacts during subsequent planning and design phases of the Project.

6.4 Wildlife

The impact to wildlife is similar to that for vegetation. Elimination of grassland areas (native or non-native alike) and reduction of open space would have an overall negative and landscape-scale impact on wildlife species as is the case with all development spreading out over plains. The highest quality habitats (i.e., floodplains, riparian areas, and wetlands within each of the drainages systems)

on the Site should be preserved as contiguous open space to help meet the life requisites of wildlife. Native grassland on private lots will be the most impacted by development and therefore efforts should be made to limit development to restricted building envelopes. Weedy grassland should be managed to restore their health to improve their functional capacity to provide food, cover, and breeding habitat for all obligate prairie species that typically utilize grasslands to meet their life needs. Native landscaping around all residential and commercial structures can benefit wildlife, especially small wildlife including insects, rodents and birds. Upland, riparian and wetland habitat may be enhanced or created within and adjacent to a proposed detention/stormwater quality detention basins to expand upon existing riparian greenways. Management priorities should include weed control and enhancement of existing native vegetation throughout the entire development, including preserved floodplains. Altogether, a low-impact development approach that preserves grassland on private and public land combined with vigilant management actions to maintain it will help mitigate the negative impacts to wildlife communities at a landscape scale.

6.5 Federal Listed Species

The Site is not located within any officially designated occupied or critical habitat for federally designated T&E species. Therefore, there will be no impacts to federally designated T&E species and no need to initiate consultation with the USFWS under the ESA.

6.6 Raptors and Migratory Birds

The Project is expected to have a slightly negative impact on raptors and migratory birds since open space, grassland and hunting grounds will be lost to development. Preservation of high value wetlands and riparian areas and the floodplain along the North-Central drainage and integration of native prairie and native plantings within the fabric of the development would partially mitigate for the loss of prairie.

7.0 REGULATIONS AND RECOMMENDATIONS

7.1 Clean Water Act

Section 404 of the CWA prohibits the discharge of dredged or fill material into WOTUS (including wetland habitat) without a valid 404 permit. ECOS identified potentially jurisdictional WOTUS (drainages with a defined bed and bank and/or persistent, abutting, connected and continuous wetlands) that will likely require a 404 permit prior to disturbance. However, given the current, actively changing regulatory environment at the Federal level (i.e., revision of the definition of WOTUS via the Sackett vs. USEPA Supreme Court decision) it is not feasible to determine with certainty if the drainage(s) on Site will be deemed jurisdictional by the USACE without going through a formal jurisdictional determination process. In addition, the state of Colorado is developing a regulatory framework to protect and regulate waters of the State as a means to accommodate the WOTUS features that may be excluded from federal jurisdiction.

Floodplains, riparian areas, wetlands and streams provide numerous cultural, ecological and economic functions and values for society, including food and habitat for fish and wildlife, water quality improvement; flood storage; erosion control; economically beneficial natural products for human use; open space for recreation and education; and views and aesthetic qualities that improve real estate sales and values. Regardless of jurisdictional status, the floodplain, water ways and wetlands present on site should be preserved to achieve these functions and values.

7.2 Endangered Species Act

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

Please note the following standard response from the USFWS in regard to ESA concurrence or clearance: “If you (the project proponent) have determined that your project will have no effect to listed species or their habitat, or if suitable habitat for a listed species does not occur within your project area, you may not receive any further response or notification from us, as neither section 7 of the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C 1531 *et seq*.), nor implementing regulations under section 7 of the ESA, require us to review or concur with projects where “no effect” determinations have been made”. This means that the USFWS may or may not comment or provide effects determinations as documentation of ESA compliance regardless of the Project being constructed, funded or permitted by a federal agency or if requested by the County or FEMA.

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

No raptor nests have been mapped within one mile of the Site (COGCC 2022) and no migratory bird nests were observed within the Site. The closest active nest mapped by COGCC is a Ferruginous hawk nest located 3.09-miles to the northeast. Given the seasonal and transitory nature of migratory birds and raptors, ECOS recommends a nesting bird survey immediately prior to any construction activity to identify any new nests within the Site or within the CPW recommended buffers of the Site. Construction activities should be restricted during the breeding season near any newly identified migratory bird nest.

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Appendix A

USDA Custom Soil Resource Report

Appendix B

Photo Location Map and Representative Photos

Appendix C

USFWS IPaC Trust Resource Report

Appendix D

USACE Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rodriguez City/County: El Paso Sampling Date: 5/23/23

Applicant/Owner: ~~Esteban~~ Rodriguez State: CO Sampling Point: W1-WET

Investigator(s): Jon Dauzvardis & Grant Gurnée Section, Township, Range: S2+11, T13S, R64W

Landform (hillslope, terrace, etc.): stream corridor Local relief (concave, convex, none): concave Slope (%): 0-3

Subregion (LRR): G Lat: 38.945566° N Long: -104.529015° W Datum: WGS 84

Soil Map Unit Name: 29- Fluvaquentic Haplaquolls, nearly level NWI classification: PEM1A

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

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

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Carex nebrascensis	60	Y	OBL
2. Schoenoplectus americanus	20	Y	OBL
3. Eleocharis palustris	20	Y	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ 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: W1-WET

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	OM						OM	Organic Matter
1-18	10YR5/2						Sand	Saturated to surface

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

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): 0-6

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

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0 (surface)

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: Rodriguez City/County: El Paso Sampling Date: 5/23/23

Applicant/Owner: Esteban Rodriguez State: CO Sampling Point: WT-WPL

Investigator(s): Jon Dauzvardis + Grant Gurnée Section, Township, Range: S2+11, T13S, R64W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 1-9%

Subregion (LRR): G Lat: 38.945566°N Long: -104.529015°W Datum: WGS 84

Soil Map Unit Name: 8 - Blakeland loamy sand 1-9% slopes NWI classification: N/A

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

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

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Bouteloua gracilis	50	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
% Bare Ground in Herb Stratum 50	100 = Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (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[1] = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ 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: W1-UPL.

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR3/2						Loam	Dry

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

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

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? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rodriguez City/County: El Paso Sampling Date: 5/23/23

Applicant/Owner: Esteban Rodriguez State: CO Sampling Point: W2-WET

Investigator(s): G. Gurnee & J. Dauzvardis Section, Township, Range: Sec. 2 & 4, T 13 S, R 64 W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-3

Subregion (LRR): Southern Rock Mountain Foothills (G) Lat: 38.949656°N Long: -104.533978°W Datum: WGS84

Soil Map Unit Name: Fluvaquentic Hapaquolls (Map Unit 29) NWI classification: PEM1A

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

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

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

Remarks:

Mosaic of wetland with high water table downslope of wetland seep on Saddlehorn site located to the west.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: Census)			
1. Schoenoplectus pungens (Three-square bulrush)	5	Yes	OBL
2. Juncus balticus (Baltic rush)	45	Yes	FACW
3. Carex nebrascensis (Nebraska sedge)	10	Yes	OBL
4. Agrostis gigantea (redtop)	25	Yes	FACW
5. Carex praegracilis (Clustered field sedge)	5	Yes	FACW
6. Mentha arvensis (Watermint)	P	No	FACW
7. Bouteloua gracilis (blue grama)	10	Yes	UPL
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	75	x 2 =	150
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	10	x 5 =	50
Column Totals:	100 (A)		215 (B)

Prevalence Index = B/A = 2.15

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ✓ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Delineation line surveyed at break between wetland species and blue grama. Wetland contains small islands of upland grass, but overall tends more toward wetland than upland.

SOIL

Sampling Point: D-WET

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2							Organic	
2-12	10YR4/1	100			RM	M	Sand	(wet/moist)
12-18+	110YR4/1 & 4/2	80/20			RM	M	Sand	(wet/moist)
			1					

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes X No _____ Depth (inches): 4"

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

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Google Earth aerial image (10/31/2022) used to interpret and define wetland boundary based on visible saturated soil conditions not apparent at eye level in the field.

Remarks:

Delineation performed during peak run-off / spring rainy season. Wetland likely drier at end of growing season.