NATURAL FEATURES AND WETLANDS REPORT

for

Falcon Field
El Paso County, CO

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1.0 INTRODUCTION

Falcon Field, LLC ("Applicant") retained Bristlecone Ecology, LLC ("B.E." or "Agent") to perform an environmental assessment and prepare a Natural Features and Wetlands Report for the proposed Falcon Field project ("Project") located in unincorporated El Paso County (EPC), Colorado. Contact information for both Applicant and Agent is provided below:

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1.1. Purpose and Goals

The purpose of this Natural Features and Wetlands Report is to find and document natural resources and existing site conditions in order to identify potential environmental constraints that may affect the development of the Project. In addition, a goal of this report is to provide guidance on regulatory issues that could influence site development in accordance with development planning and application submittals in EPC. Environmental resources and constraints addressed include:

- Vegetation
- Soils
- Aquatic Resources/Wetlands/Waters of the U.S. (WOTUS)
- Wildfire Hazard
- Wildlife Impacts
- Federal and State Listed Threatened and Endangered (T&E) Species

1.2. Project Description and Site Location

The Project will consist of 20 commercial and retail lots including roads, utilities, and other associated infrastructure on approximately 58 acres (site). The Project is located southeast of the intersection of East Woodmen Road and Highway 24 in the unincorporated community of Falcon, near the northeast edge of Colorado Springs and four miles southeast of the Black Forest. The site is bounded by Highway 24 to the northwest, Rio Lane to the north, and large residential ("ranchette") parcels on the other sides (Figure I: *Project Location Map)*. The site is located in Section 7, Township 13S, Range 64W, and can be found on the U.S. Geological Survey's (USGS) Falcon 7.5-minute quadrangle (USGS 2020). Topography of the Project consists of flat to rolling grasslands with shallow swales containing wet meadows.

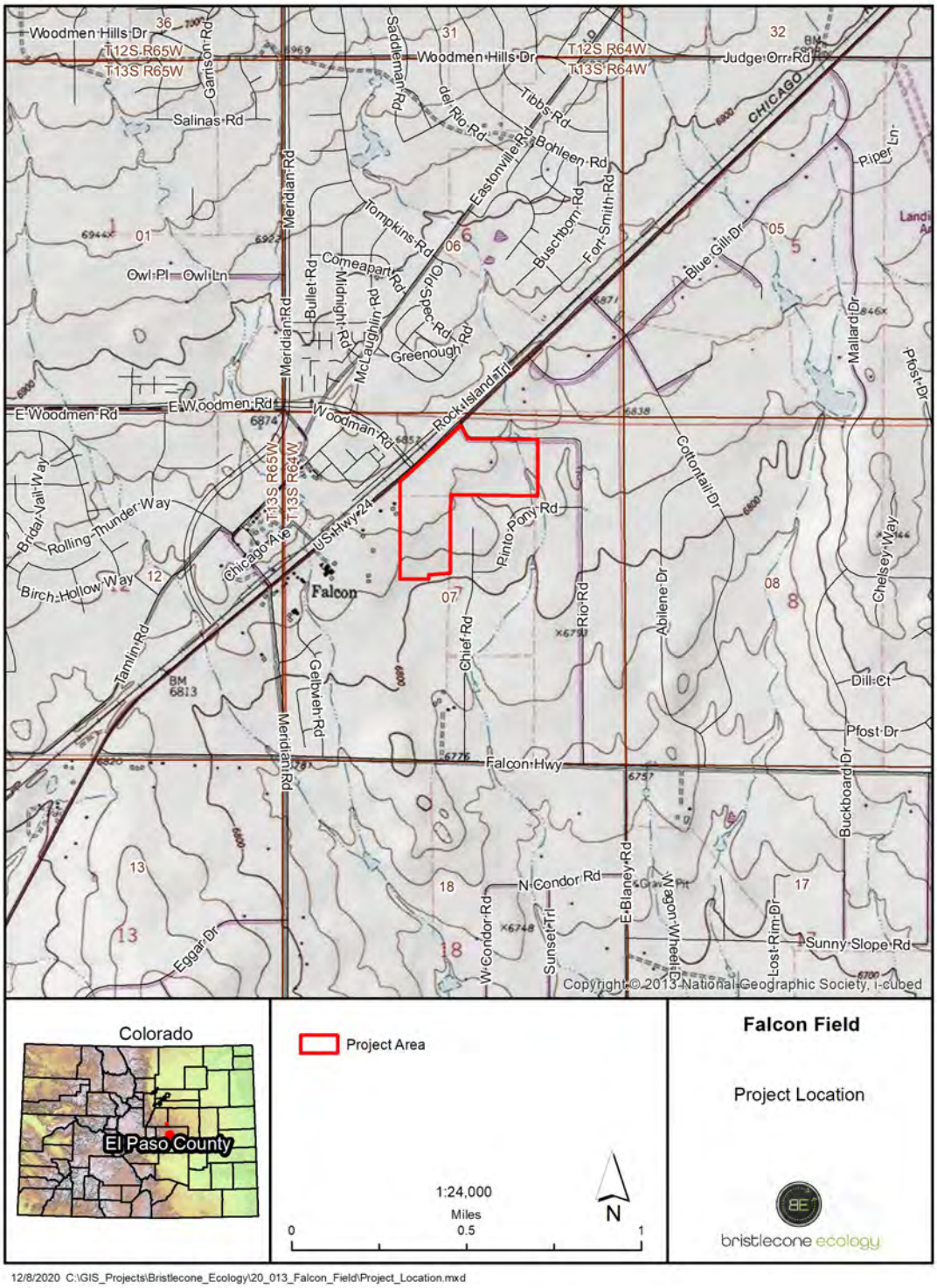

Figure 1: Project Location Map

2.0 METHODOLOGY

B.E. performed a desktop review to gather background information about the environmental setting of the Project area. Publicly available data sources queried via desktop included:

- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) data
- USFWS Critical Habitat Portal
- Species profiles and spatial data from Colorado Parks and Wildlife (CPW)
- USFWS National Wetland Inventory (NWI) data
- USGS National Hydrography Dataset (NHD)
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM)
- USGS aerial imagery
- Google Earth current and historic aerial imagery
- Colorado State Forest Service (CSFS) Wildfire Hazard Maps
- National Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) database
- Colorado Natural Heritage Program (CNHP) Survey of Critical Biological Resources

Following the desktop review of these resources, a site reconnaissance was conducted on November 30 and December 1, 2020 to field-verify results of the review and identify potential impacts to these resources and constraints to development. The field reconnaissance focused on identifying and mapping wetland habitat and potential WOTUS, assessing the jurisdiction of potential WOTUS, classifying vegetation communities on the site, and identifying suitable wildlife habitat, particularly that which could support T&E species. A wetland delineation was completed per U.S Army Corps of Engineers (USACE) requirements, including completion of representative sampling points (SP) (Appendix I: *Wetland Determination Data Forms*). Photographs were taken of the site and the sampling points (Appendix II: *Photographic Log*).

3.0 ENVIRONMENTAL SETTING

The Project area is located within the Foothill Grasslands Ecoregion where vegetation consists of mixed-grass (i.e. midgrass) prairie species with a scattering of pine woodlands (Chapman et al. 2006). Typical grassland species include blue grama (*Boteloua gracilis*), needle and threadgrass (*Hesperostipa comata*), little bluestem (*Schizachyrium scoparium*), and switchgrass (*Panicum virgatum*). The Black Forest is located four miles northwest of the Project Area; groundwater recharge from the Black Forest flows south towards the Project area. On the plains in the Project vicinity this results in areas of shallow groundwater that support a mosaic of wet meadows, shallow sloughs, and ephemeral streams. These are the headwaters of Black Squirrel Creek. The wetter conditions also support tallgrass prairie species on the west edge of their range that are otherwise uncommon in Colorado, including big bluestem (*Andropogon gerardii*) and Indian grass (*Sorghastrum nutans*).

The Project site elevation ranges between approximately 6,800 and 6,860 feet above mean sea level (AMSL) (Figure 1). The natural topography within the Project area is fairly flat except for a small hill in the northwest corner. The hill slopes down steadily to the lowest point on site along the southern property line. The hill slopes down more gradually to the east. The eastern side of the site is almost flat except for a 15-foot deep eroded gully that begins at a large box culvert on U.S. Highway 24 and continues south across the middle of the Project site.

The Project site contains no Wildlife Refuges or Hatcheries according to the USFWS' Information for Planning and Conservation (IPaC; 2020a), nor does it contain any Colorado Natural Heritage Conservation Areas or Potential Conservation Areas (PCAs) according to the CNHP (2020). There are two CNHP PCA's located nearby: Sand Creek Ridge 1.5 miles up-gradient to the southwest, and Kelso's Prairie (formerly called Judge Orr Road) 1.2 miles down-gradient to the east. Wetlands on the site are similar to those described for Kelso Prairie. The Falcon area has been used historically as rangeland, but residential and commercial development is increasing steadily. The associated dredging and filling of wetlands has the potential to alter the hydrologic regime that supports downstream wetlands such as those in the Kelso Prairie PCA (CNHP, 2001).

3.1. Vegetation

Vegetation is predominantly upland prairie and wet meadows. The site has been grazed in the past by horses, and possibly cattle, but does not appear to have been grazed for at least a year. Native vegetation is generally in good condition, but there are some patches of dense weeds and drought conditions have likely reduced growth of some species. The developed portions of the site are concentrated in one area and include a house, large barn, multiple outbuildings, and, small paddocks with disturbed vegetation. Large trees are limited to the area around the house, which is surrounded by mature cottonwood trees (*Populus deltoides*) along with a variety of smaller landscaping trees.

There are both shortgrass and mixed-grass prairie plant communities. Shortgrass prairie is prevalent in the flatter uplands on the west side of the site, dominant species are blue grama (*Bouteloua gracilis*) (~60% cover) with lesser amounts of slender wheatgrass (*Elymus*

trachycaulus) (~20% cover). Some areas of the shortgrass prairie appear to have been disturbed in the past as evidenced by kochia (*Bassia scoparia*) patches of varying density, occasionally mixed with other non-native species such as smooth brome (*Bromus inermis*). Mixed-grass prairie occurs on the hill on the west side of the site where the dominant species are little bluestem (*Schizachyrium scoparium*), prairie sandreed (*Calamovilfa longifolia*), and sand dropseed (*Sporobolus cryptandrus*) with lesser amounts of blue grama and other native grasses. Upland forbs are uncommon on the dryer west side of the site, but include fringed sage (*Artemisia frigida*) and a small patch soapweed yucca (*Yucca glauca*) in a rocky area in the southwest corner. Grasslands areas on the east side are typically mesic, transitional areas that contain a mix of the above species combined with more forbs and can best be categorized as mixed-grass prairie. Typical shortgrass prairie is limited to the driest areas, but blue grama and slender wheatgrass extend into more diverse mesic areas. Canada wildrye (*Elymus canadensis*) is common on slopes and there are small patches of big bluestem (*Andropogon gerardii*), a tallgrass prairie species, along some wetland edges.

There are multiple wetlands on the east side of the site, consisting mostly of diverse, sub-irrigated, herbaceous meadows. The most widespread wetland species include redtop (black bent) (*Agrostis gigantea*) (non-native, but naturalized), switchgrass (wild panic grass) (*Panicum virgatum*), clustered field sedge (*Carex praegracilis*), smooth scouring rush (horsetail) (*Equisetum leavigatum*), and Baltic rush (*Juncus balticus*) (*J. arcticus* ssp. *littoralis*) (SP 3 and 4). Three-square (rush) (*Schoenoplectus pungens*) and seaside arrowgrass (*Triglochin maritima*) are common in some of the wetter areas. Within the wet meadows there are multiple small areas with distinct plant communities including:

- Clustered field sedge is the dominant species at SP1 and in some of the drier or sandier meadows (Table 1).
- Three-square is the dominant species (85% cover) in the wettest part of the northern corner of the site (SP 3). This species is present in many other wetlands to varying degrees (Table 1).
- Nebraska sedge (*Carex nebrascensis*) is the dominant species (70 to 90% cover) in the two wettest meadows which had one to six-inch deep surface water during the site visit, along the main slough and a depression along Rio Lane north of the house (Table 1).
- On the gently sloping upper wetlands south of the house, the dominant wetland species are common spike rush (*Eleocharis palustris*) (75% cover) with lesser amounts of Rocky Mountain iris *(Iris missouriensis*).
- Saltgrass (*Disitichlis spicata*) (75 to 95% cover) is the dominant species along wetlands on the eastern edge of the property and extends into the mowed lawn on the adjacent property. Soils were generally saturated at the surface (Table 1).
- The northeast portion of the saltgrass meadow includes a sparsely vegetated area with salt crystals on the soil surface. The dominant species are Nutall's alkaligrass (*Puccinellia nutalliana*), pursh seepweed (*Suaeda calceoliformis*), and saltgrass.

Additional wetland vegetation is present in an eroded gulch and abandoned pond. In the bottom of the gulch, the wettest areas support bulrush (*Schoenoplectus* sp.) and narrowleaf cattail (*Typha latifolia*). The wetlands along the upper edge of the channel are sparsely

vegetated with redtop and small narrow-leaf willows (*Salix exigua*) growing in recently disturbed soils that are often saturated at or near the surface. The less eroded areas to the south are more diverse; dominant species include dense Baltic rush, three square, common spike rush, and swordleaf rush (*Juncus ensifolius*). There is wetland vegetation growing throughout the old pond. The sandy ground is approximately 25% bare. The dominant species are small narrow-leaf willows (25%), redtop, and alkali muhli (*Muhlenbergia asperifolia*). Other common species are three square and Baltic rush.

Several state-listed noxious weeds are present at the site, mostly scattered along wetland edges in low densities or small patches. Total noxious weed cover is approximately three percent east of the gulch and less than one percent west of the gulch. The most common noxious weeds are Canada thistle (*Cirsium arvense*) and Russian olive (*Elaeagnus angustifolia*). Common mullein (*Verbascum thapsus*) and musk thistle (*Cardaria nutans*) also occur. Multiple large patches of non-native kochia that cover roughly 10 percent of the site. The kochia patches in uplands along the top of the gulch appear to have grown in areas that were disturbed by stormwater flooding or dumping of manure from the barn. There are also multiple patches farther west; one appears to be growing in an area of dumping and the others could be growing in areas disturbed by feeding cattle or subtle shifts in hydrology.

B.E. reviewed CNHP data for the Falcon, Colorado 7.5-minute quadrangle, which summarizes vegetation communities in the state by USGS quadrangle (CNHP 2020; NatureServe 2020). Data were reviewed to determine the probability of the presence/absence of significant natural communities, rare plant areas, or riparian corridors that may be within the Project area. Based on CNHP's data and the site reconnaissance, the probability of these plant communities being impacted by Project development is described below in Table 1.

Table 1. Potentially Impacted Vegetation Communities (CNHP 2020; NatureServe 2020)

Plant Community (Type)	Status[1]	Presence and Location	Probability of Impacts
Andropogon gerardii - Sporobolus heterolepis Western Foothills Grassland (Xeric Tallgrass Prairie)	G2, S1	Mesic habitats of the Rocky Mountain foothills and riverine habitats. This type is a regional endemic found only in eastern Colorado, western Oklahoma, and possibly elsewhere. Reportedly occurs in the nearby Black Forest.	None. Community is not present in the Project area.
Andropogon gerardii - Schizachyrium scoparium Northwestern Plains Grassland	G2, S2	Nearly level to gently sloping (0-20% slope), park-like openings in ponderosa pine forests with loamy soils. May occur in the nearby Black Forest.	None. Community is not present in the Project area.
Carex pellita Wet Meadow	G3, S2	This groundwater-supported association occurs in small patches along stream channels and in seasonally wet depressions and swales. Wooly sedge (*Carex pellita*) is very palatable to livestock when young and may be reduced by grazing. *Carex pellita* was not observed, but may be present in some areas and would be more visible in the summer when seed heads are present.	Low. Community was not observed in the Project area but could be present in small areas.
Carex praegracilis Wet Meadow	G3G4, S2	Forms meadows in swales and along low gradient prairie stream channels. May persist in dry conditions once established. Observed in small patches east of the pond (SP1) and near the north end of the slough in relatively dry or sandier wetlands.	High. Small areas of this community are present and will be impacted.
Carex nebrascensis Wet Meadow	G4, S4	Occurs on the western Great Plains and much of the western U.S. Forms open meadows that occur along the margins of streambanks, flat floodplains, and lakes often forming a band along the alluvial terrace, or on marshy areas surrounding springs and below seeps on lower hillslopes. Present in two areas flooded by groundwater, the slough and north of the house.	High. Small areas of this community are present and will be impacted.
Distichlis spicata Alkaline Wet Meadow	G5, S5	Widespread in semi-arid and arid regions. Occurs in deep, saline and alkaline soil; soils generally have an impermeable layer and therefore are poorly drained. This is the dominant community in the wetlands on the east edge of the Site, near the fence.	High. Small areas of this community are present and will be impacted.

Table 1. Potentially Impacted Vegetation Communities (Continued)

Plant Community (Type)	Status[1]	Presence and Location	Probability of Impacts
Hesperostipa comata – Bouteloua gracilis – Carex filifolia Grassland (Montane Grasslands)	G5, S2	Occurs in relatively mesic savanna habitats, on gentle to moderate south- and west-facing slopes. Dense habitat occurs to the west-northwest in the Black Forest.	None. Not present and the Project area is south of this community.
Juncus arcticus ssp. littoralis *(=Juncus balticus)* Wet Meadow	G5, S5	Widespread, herbaceous wet meadow community. Occurs as small to extensive, open to typically dense patches on flat stream benches, along overflow channels, and near springs. Often considered to be a grazing-induced community since it increases with disturbance. This community was not observed. Juncus articus was present in some wetlands, but typically with less than 5% cover.	None. Community is not present in the Project area.
Schizachyrium scoparium - Bouteloua curtipendula Western Great Plains Grassland	G3, S2	Occurs on shallow sandy or rocky soil, usually on level or gently sloping terrain, although it may also occur on moderate slopes. Probably not present. The hillside mixed grass prairie is similar to this type. *Bouteloua curtipendula* was not seen here and is uncommon overall, but it can be difficult to distinguish from other grasses if seedheads are not present. However, CNHP sometime includes similar communities within this type (CNHP, 2001).	Low. Community is probably not present in the Project area.
Schoenoplectus pungens Marsh	G3G4, S3	Occur in areas that are wet for all or most of the growing season including low-gradient, meandering streams and springs. Alluvial soils are deep, mineral-rich, poorly drained silt loams or sandy loams. Conditions may be moderately to strongly alkaline. Present in areas with shallow groundwater and surface saturation including at SP 3 and some smaller patches within wetlands to the east.	High. Small areas of this community are present and will be impacted.

[1]G=Global; S=State; 1=Critically Imperiled; 2=Imperiled; 3=Rare or Uncommon; 4=Widespread, Abundant, and Apparently Secure; 5=Demonstrably Widespread, Abundant, and Secure.

3.2. Soils

Soil survey data and reports were reviewed to determine the potential for the presence of geologic hazards within the Project (NRCS 2020a). The NRCS provides information on soil properties that would influence the development of building sites for dwellings with basements, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance (NRCS 2020b). Qualitative soil ratings are assigned to each major soil group and include 'Not Limited', 'Somewhat Limited', and 'Very

Limited'. 'Not Limited' indicates that the soil type has properties that are very favorable for the specified type of construction. 'Somewhat Limited' indicates that the soil type has properties that are moderately favorable for the specified type of construction. These limitations can generally be overcome through planning and design considerations. 'Very Limited' indicates that the soil type has properties that cannot generally be overcome through design and planning considerations (NRCS 2020b).

The NRCS SSURGO database shows two mapped soil units in the Project area, Columbine gravelly sandy loam (0 to 3 percent slopes) (Columbine) (67%) with a smaller area of Blakeland loamy sand (1 to 9 percent slopes) (Blakeland) (33%) on the western hill (NRCS 2020a) (Figure 2: *NRCS SSURGO Soils*). Mapped soil units may include minor components (called "inclusions") that could contribute to the overall soil composition at the site. The NRCS data lists Blakeland inclusions as 1% Pleasant and 1% other soils; Columbine inclusions are the same plus 1% Fluvaquentic Haplaquolls. Both mapped soils are rated as "Not Limited" for the construction of local roads and dwellings (with or without basements). Columbine is rated as "Not Limited" for the construction of small commercial buildings, but Blakeland is rated as "Somewhat Limited." Ratings classes for Pleasant and Fluvaquentic Haplaquolls are listed as "Not Rated" for all of the above uses. The County soil survey data describes inclusions within both map units differently (USDA 1981). The Blakeland inclusions are 30 percent Fluvaquentic Haplaquolls and 10 percent other soils. Columbine includes several additional soil series on slopes and Fluvaquentic Haplaquolls in flat areas (no percentages are given). Per the USDA, Fluvaquentic Haplaquolls occur in swales and related use limitations are flooding hazards and a high water table (zero to three feet).

B.E. reviewed the hydric soil ratings for all soil components present on the Project site to aid in the identification of wetland habitats during the site reconnaissance (NRCS 2020b). Hydric soils are those that form under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions, and their formation is required in order for wetlands to become established. The NRCS hydric rating indicates the percentage of each map units that meets the criteria for hydric soils. The map unit hydric rating is 2 for the Columbine map unit and it not rated as hydric. Two minor components of the Columbine map unit are rated as hydric in El Paso County. The Pleasant series (1%) is typically found in depressions where ponding can occur. Fluvaquentic Haplaquolls (1%) typically occur in swales. The Blakeland map unit has a hydric rating of 1, it not rated as hydric, and also includes the hydric Pleasant series as a minor component (1%).

Hydrologic soil groups are based on estimates of runoff potential (NRCS 2020a). Soils are assigned to one of four groups according to the rate of water infiltration. The Columbine and Blakeland series are both in Hydrologic Group A. When thoroughly wet, soils in this group have a high infiltration rate and low runoff potential. These soils have a high rate of water transmission. Group A soils consist mainly of deep, well drained to excessively drained sands or gravelly sands.

Additional, detailed soil data for the Project will be presented in a soils/geology/geotechnical report that will be submitted separately.

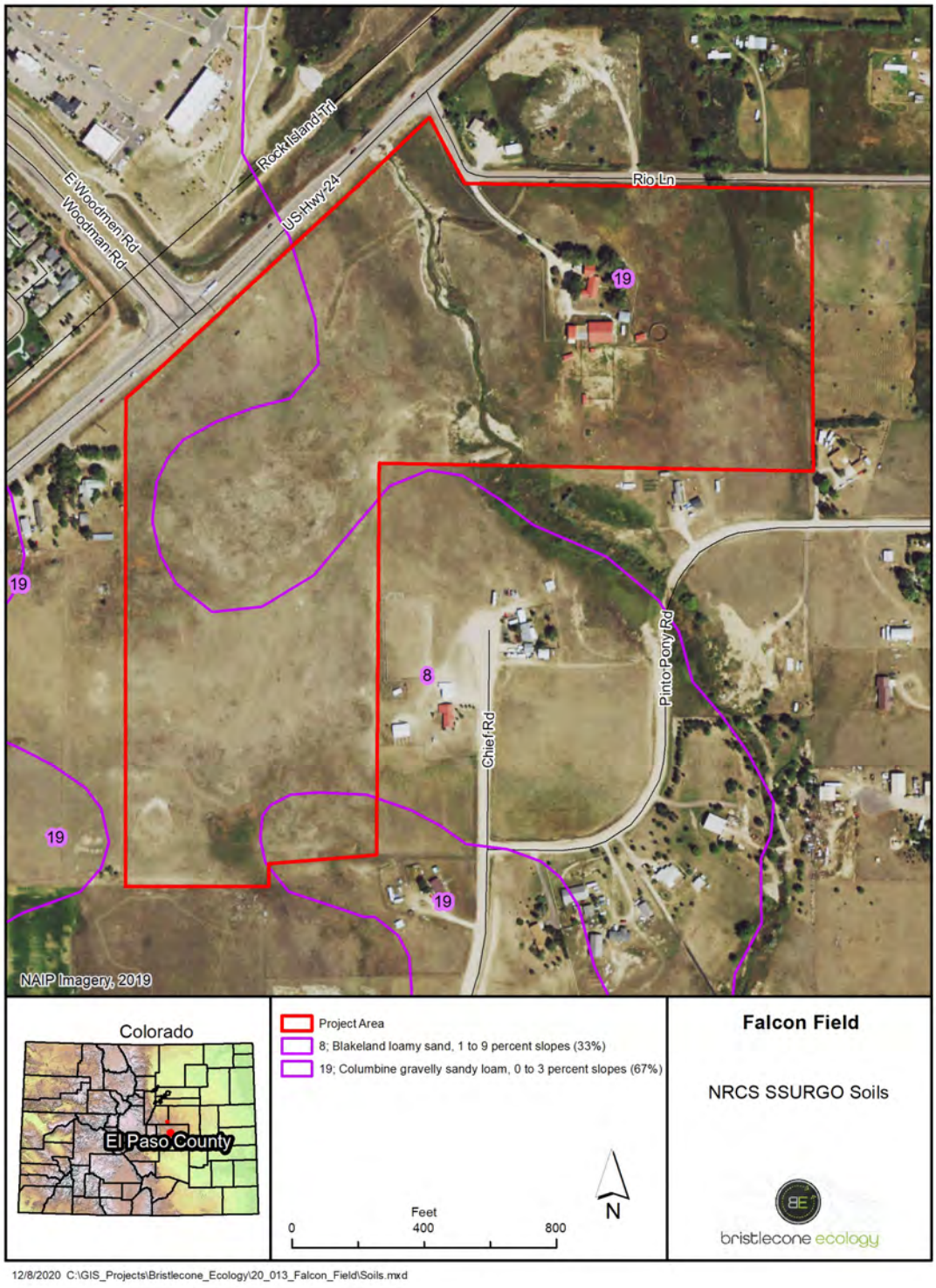

Figure 2: NRCS SSURGO Soils Map

3.3. Hydrology

Based on observations during the site visit, shallow groundwater is the primary source of hydrology. At most wetland sampling points, saturation or water table was observed within 12 to 24 inches of the surface (Appendix II). Standing water was observed in several low areas on the east side of the site, with the slough being the largest area. There are also small springs in several locations as evidenced by surface saturation, patches of more strongly hydrophytic vegetation, and saturation visible on aerials. Surface springs were most obvious on the slope west of the slough, around the old pond, and near SP 3. Shallow groundwater and springs were present even though the entire area has been in a prolonged drought and recent precipitation has been minimal (NOAA, 2020).

The only surface flow coming onto the Site is via a large box culvert on U.S. Highway 24 that drains a large commercial development north of the highway. This development appears to have increased stormwater flow onto the site and created a deep, eroded gulch. A 1999 aerial photo shows the commercial area to the north under construction and the gulch area as a wetland slough similar to the one on the east side of the site. Following development, channel erosion has continued with the most recent major sediment outflow visible on the 2016 aerial photograph. Below the U.S. Highway 24 outfall, the gulch is approximately fifteen feet deep. The gulch depth decreases to the south as it approaches the old pond; at this point the banks are only two feet high. Water flows through palustrine emergent marsh at the bottom of the gulch; the water is approximately four to ten feet wide and depth varies from three to ten inches. In multiple locations, groundwater was observed to be seeping into the gulch from above, typically about two feet below the top of the banks, which is consistent with the ground water depth observed at SP 3 and 4. Soils within the gulch are often saturated more than two feet above the flowing water and hydric soil indicator visible along the bank; this seems to be due to the influx of groundwater from above. Saturated soils along the sides of the gulch were unstable and observed to have recently collapsed in some areas. The pond does not have water in it and has mostly filled with sandy soil eroded from the gulch, but soils are saturated at or near the surface in most areas. The pond appears to have been placed to collect water flowing from the slough and from small springs that are still evident around the perimeter.

3.4. Aquatic Resources

Aquatic resources include jurisdictional wetlands and other regulated Waters of the U.S. (WOTUS) such as streams/rivers, ponds/lakes, and ditches, as well as non-regulated wetlands, streams/rivers, ponds/lakes, ditches, and other surface water features. The USFWS' NWI and USGS' NHD datasets were reviewed for the possible presence of wetlands and streams, respectively, within the Project area. Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) were reviewed to identify floodplains. Aerial imagery was reviewed to locate water features not depicted in the NWI and NHD datasets. Potential aquatic features that were depicted in the data can be seen in Figure 3: *Aquatic Resources Map*, and Figure 4: *Flood Hazard Map*. Aquatic features include:

- The eroded gulch and empty pond in the center of the Project Area are mapped by FEMA as a Zone A floodplain (Zone A is the 100-year floodplain and has a 1% annual chance of flooding).

- The unnamed slough on the east side of the Project area is mapped in the NWI (based on 1976 imagery) and NHD data as open water coded as R4SBC; riverine (R), intermittent (4), streambed (SB) with a seasonally flooded (C) water regime.
- The north end of the slough (now the location of Rio Road) is mapped in the NWI (based on 1976 imagery) and NHD data as open water coded as R5UBH; riverine (R), unknown perennial (5), unconsolidated bottom (UB) with a permanently flooded (H) water regime.

Watercourses and other aquatic features identified in the preliminary desktop analysis were inspected in the field to assess their current conditions and jurisdictional potential. This included additional potential wetland areas identified on aerial photographs. Site reconnaissance confirmed that wetlands are more extensive than depicted in the NWI/NHD data with a total wetland area of roughly 7.2 acres. Most of the wetlands are associated with sub-irrigated wet meadows on the east side of the Project Area. During the site reconnaissance, the following features identified in the NWI/NHD data were delineated and classified as follows (Figure 5: *Wetland Delineation Map*):

- There is now a deeply eroded gulch located within the FEMA mapped floodplain. Flow within the incised channel appears to be perennial on the site due to the combination of surface flow from upstream development and groundwater. Within the gulch, there is robust wetland vegetation growing in the main channel. South of the site, flows are seasonal and intermittent.
- Near the southwest end of the gulch and within the FEMA mapped floodplain, there is an abandoned farm pond. There is sparse palustrine scrub shrub wetland vegetation growing throughout the pond. Groundwater in the pond area appears to be shallow as evidenced by the small springs observed around the perimeter, areas of surface soil saturation, and well-established wetland vegetation. The hydrology of Sample Point 1 (Appendix 1) is representative of the pond edge.
- The NWI depicted R4SBC streambed is present and generally located as shown in the datasets, on the east side of the site. There were two to six inches of standing water in the densely vegetated slough. The water source appears to be groundwater because there are no visible culverts carrying flow beneath Rio Lane. The palustrine emergent wetland vegetation was dominated by Nebraska sedge in areas with standing water and three square in low areas without standing water. The slough becomes shallower, drier, and less defined as it continues to the southeast. At the eastern property line, the soil was saturated at the surface and the dominant species was saltgrass. This saltgrass-dominated wetland likely continues to the east across a 300-foot-wide mowed field and then connects with a more obvious wetland area vegetated with dense sandbar willows. However, wetland continuity through the field could not be confirmed due to the lack of access, flat topography, and mowed vegetation.
- The NWI depicted R5UBH ponded area is no longer present because Rio Road is now located here. However, remnants of the pond may remain because this is the wettest part of the slough.
- There are many Palustrine-Emergent (PEM) wet meadows on the east side of the site that were not mapped in the NWI data. These wetlands appear to be supported by

shallow groundwater and small surface springs and vegetation is diverse (SP 1, 3, 4, 5). B.E. delineated all of these wetlands.

The downstream hydrologic connection of wetlands on site was evaluated using aerial photographs and viewing possible upland breaks from public roads.

- The eastern slough and associated wetlands continue southeast from the site and then flow to the southeast via a series of ditches along the west side of Rio Road.
- Flows and wetlands associated with the gulch and pond appear to continue to the south via a series of marshy wetland areas and small, sandy channels with defined bed and banks.
- The two "channels" appear to merge south of Falcon Road (38.923680°, -104.594373°).
- Surface flows continue southeast for approximately 0.75 miles, via more marshy areas and slightly larger sandy channels, to a pond located south of Sunny Slope Road and west of Blaney Road (38.916662°, -104.591153°).
- Wetland vegetation continues south from the pond for another 0.14 mile and then ends at Blaney Road to the east and a large driveway to the south. During the site visit, upland vegetation was growing in both of these areas and no surface water connection to downstream areas via culverts was observed.

While only the U.S. Army Corps of Engineers may determine the regulatory status of aquatic features under the Clean Water Act, it is B.E.'s professional opinion that the field-delineated wetlands on the site would not be considered jurisdictional because there is not a continuous surface connection to downstream WOTUS.

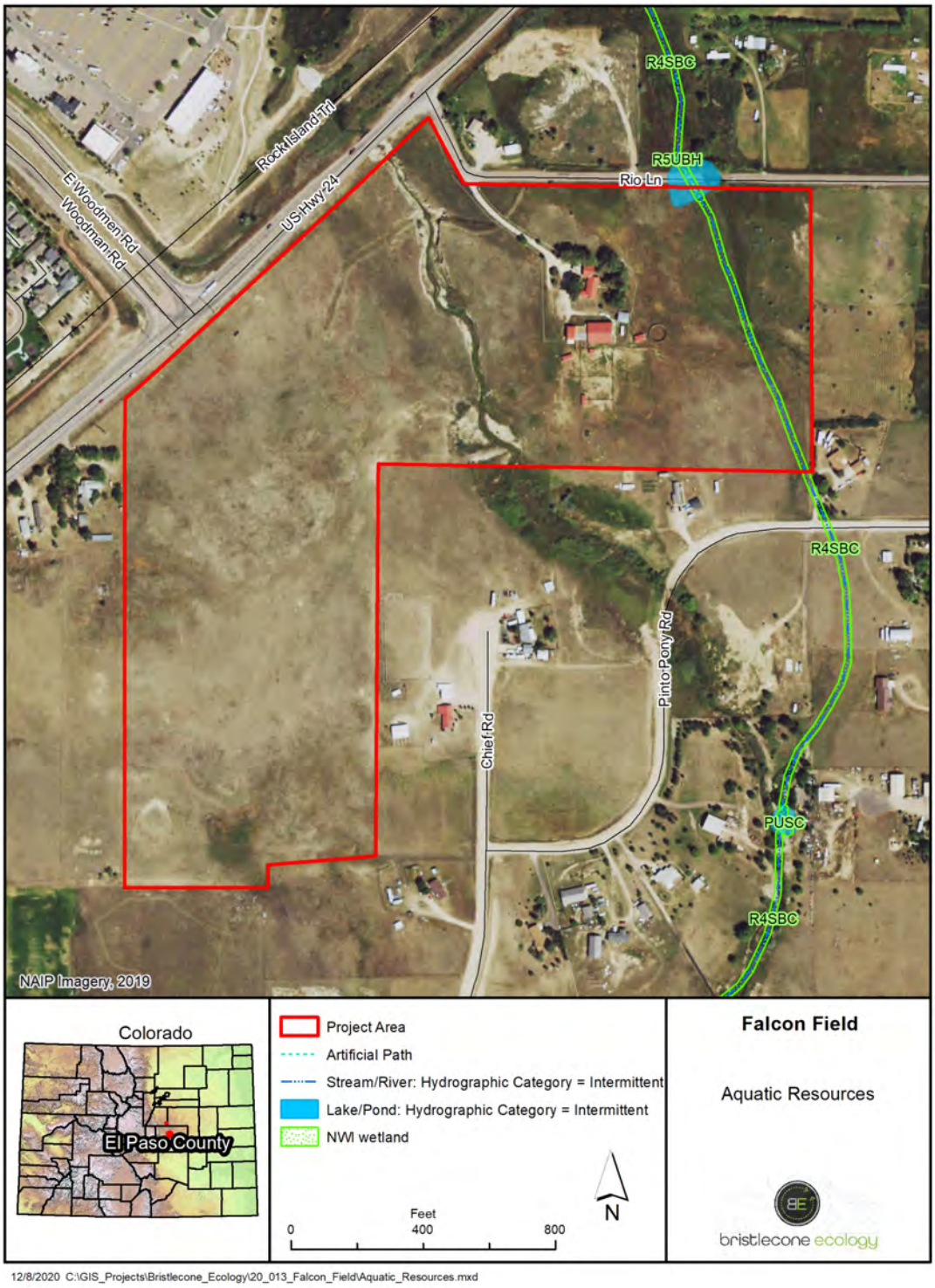

Figure 3: Aquatic Resources Map

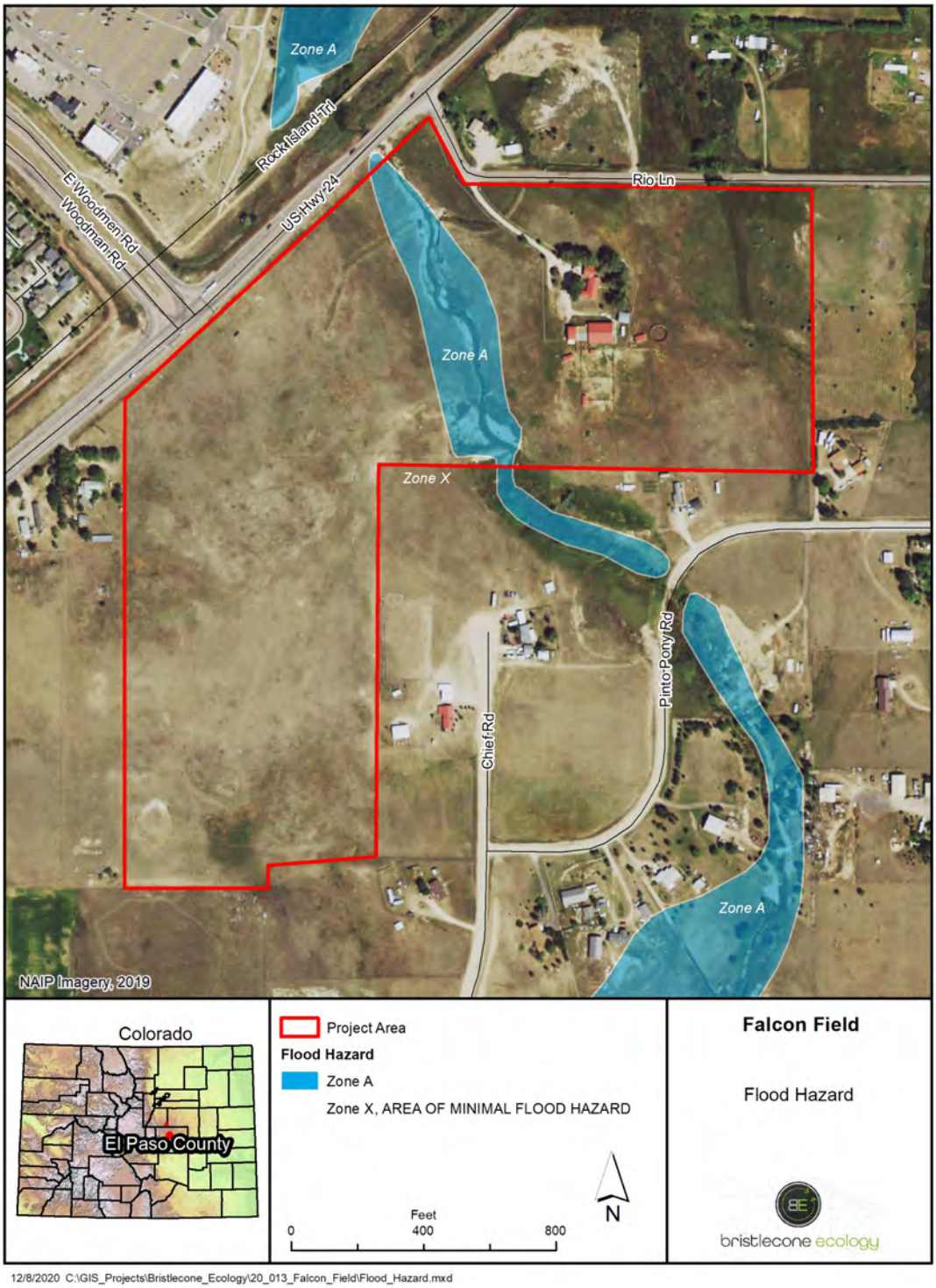

Figure 4: Flood Hazard Map

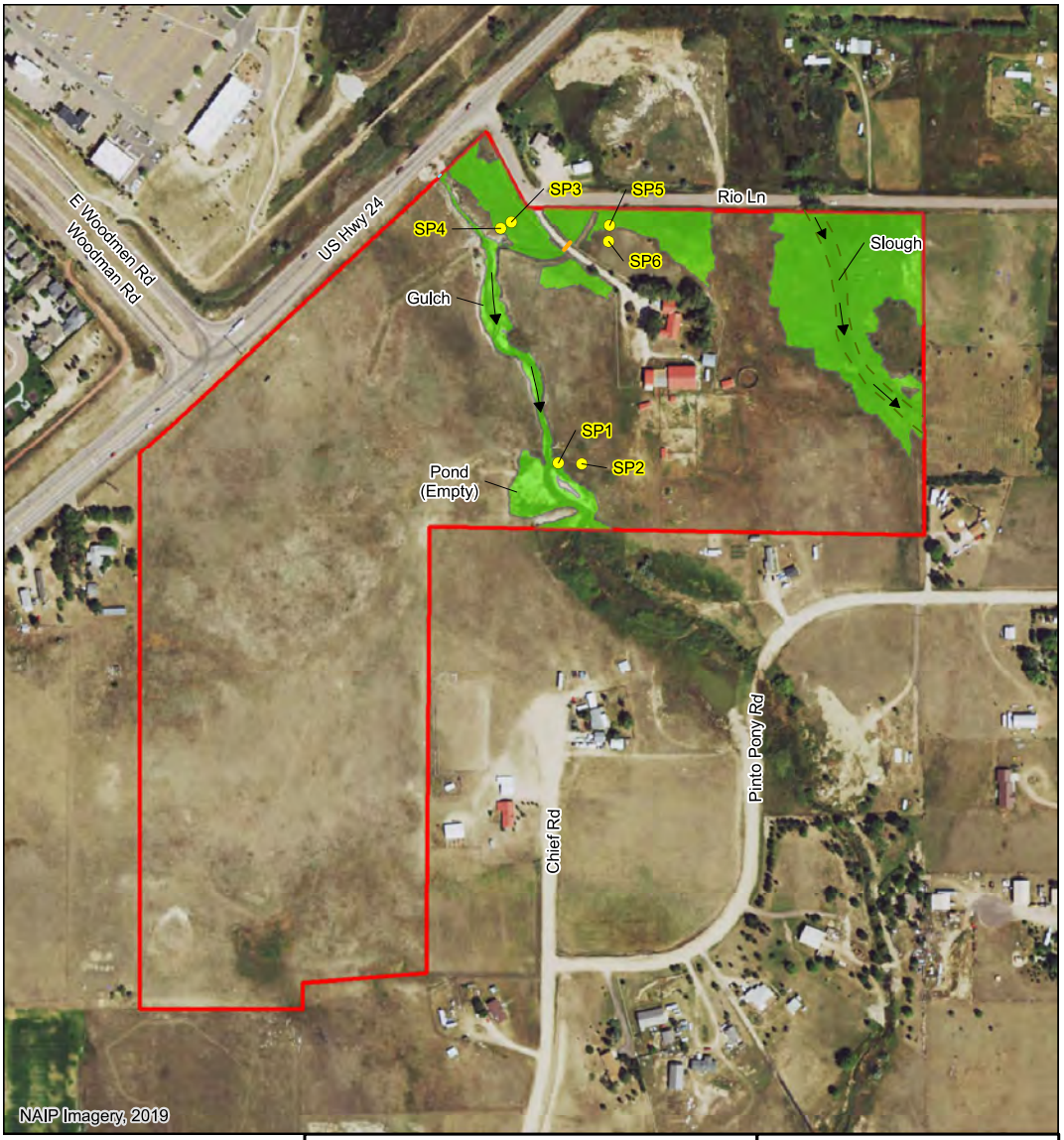

Figure 5: Wetland Delineation Map

3.5. Noxious Weeds

B.E. prepared a Noxious Week Management Plan ("Plan") as a standalone document for the Project based on El Paso County requirements for noxious weed control. The Plan is a Project-specific document that has been designed to set forth Project-level regulations to prevent and control the spread of noxious weeds within the Project area and vicinity. Noxious weeds are defined as those non-native plants that aggressively invade and are detrimental to native vegetation communities and ecosystems. The *Colorado State Noxious Weed Act* (Colorado Revised Statute 35-5.5-103) developed a list of plants considered noxious in the state of Colorado that should be targeted for control by various methods dependent on list category (A, B, or C). The Plan tiers to the requirements set forth by the El Paso County Noxious Weed Management Plan (EPC 2017), and the El Paso County Noxious Weeds and Control Methods report (EPC 2018a), which contain guidelines for the control and treatment of noxious weeds found in the County. EPC requires that commercial or industrial projects that include ground disturbing activities submit a project-specific noxious weed management plan. This Plan provides methods to prevent and control the spread of noxious weeds at construction and post-construction phases of the Project. See Appendix III: *Noxious Weed Management Plan*.

3.6. Wildfire Hazard

In the 2018 El Paso County General Development Standards, the stated purpose and intent for fire protection and wildfire mitigation is to ensure that proposed development is reviewed for wildfire risks and adequate fire protection. No permit or approval associated with development, construction or occupancy shall be approved or issued until the provisions of these standards are satisfied. The Project area is located in the Falcon Fire Protection District. There are five fire stations in the district, and the two closest to the site are:

- Station 1, 16465 Ridge Run Drive, Colorado Springs (3.1 miles from site)
- Station 3, 7030 Old Meridian Road (0.5 mile from the site)

The Black Forest Fire Protection District has the following operations equipment available:

Station 1 (Primary Response Station)
- 1 engine
- 1 water tender
- 1 utility truck
- 1 brush truck

Station 2
- 1 4-wheel drive engine
- 1 water tender
- 1 brush truck

Station 3 (HQ/Training with 24/7 fire crew)
- 1 engine
- 1 water tender
- 1 utility truck
- 1 brush truck

Station 4 (Primary Response Station)
- 1 engine
- 1 water tender
- 1 brush truck

Station 6:
- 1 brush truck
- 1 water hauler

Wildfire hazard for the Project site was evaluated using the Colorado State Forest Service's (CSFS) online Wildfire Risk Assessment Portal (WRAP; CSFS 2020). WRAP allows professionals, planners, and the public to access the best scientific information regarding wildfire risk and establish prevention and mitigation measures accordingly. According to WRAP, the wildfire risk for the majority (~80%) of the Project area is listed as "High Risk," with small areas mapped as "Non-Burnable," "Low Risk," and "Highest Risk" (CSFS 2020; Figure 6: *Wildfire Hazard Map – Wildfire Risk*). "Wildfire Risk" is determined by CSFS by combining the burn probability rating of a site with the values-at-risk rating. The "High Risk" rating is likely based on the presence of multiple homes surrounding the site. The burn probability for the entire site is rated "Moderate-High" (CSFS 2020; Figure 7: *Wildfire Hazard Map – Burn Probability*).

3.7. Wildlife Communities

The Project area provides moderate quality habitat for grassland and wetland wildlife, including birds, mammals, reptiles, and possibly amphibians. Wildlife cover on the site is low, but the there is moderate quality foraging and nesting habitat from some grassland species. Many grassland species prefer large areas of contiguous habitat with few trees or structures. Thus, overall quality is reduced by the small size of the site and surrounding development. Wildlife that could be affected were identified first by referencing CPW's Species Activity Mapping (SAM) spatial data to assess the likelihood of occurrence for state TES, state species of concern (SC), and other general wildlife, including big game species. The Colorado Natural Heritage Program (2020) also provides species status data from tracked natural animal and plant communities in the state. The review indicated that there is potential for the occurrence of 11 mammals, 15 birds, and 14 reptiles, and one amphibian, including one SC mammal, one federal- and state- threatened mammal, one state-threatened bird, and one SC amphibian (Table 2. SAM Wildlife Potential for Occurrence).

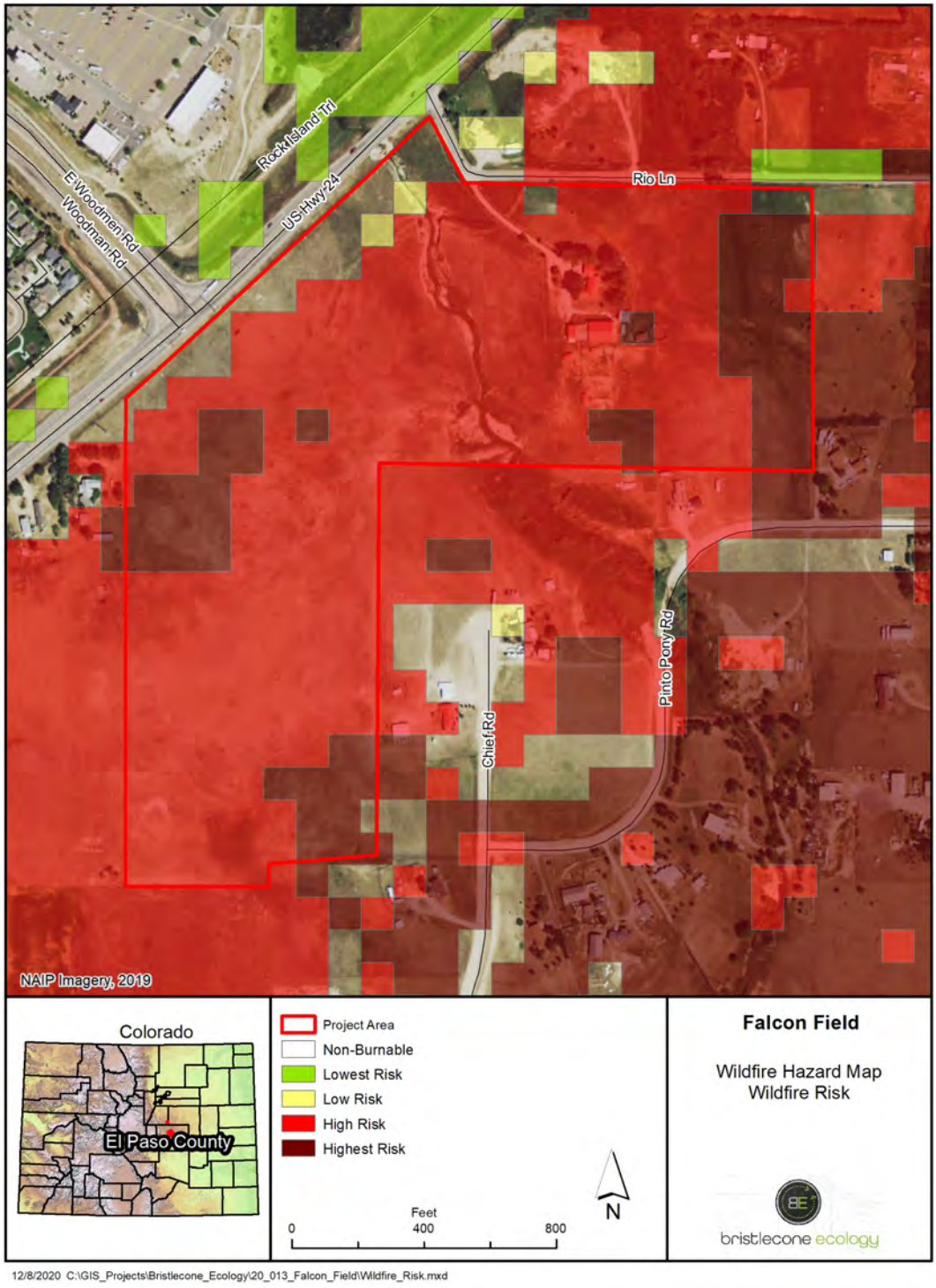

Figure 6: Wildfire Hazard Map – Wildfire Risk

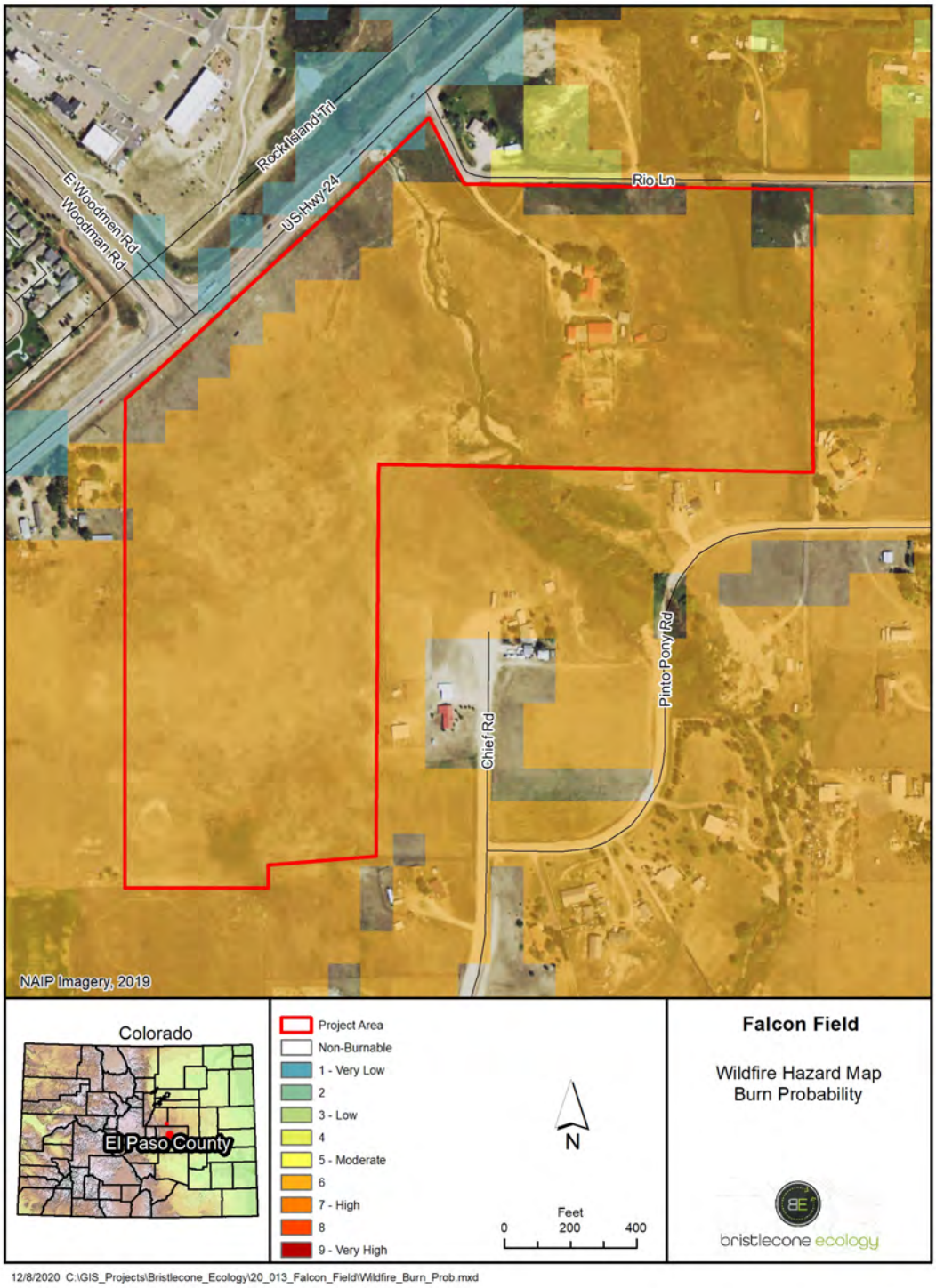

Figure 7: Wildfire Hazard Map – Burn Probability

Table 2. SAM Wildlife Potential for Occurrence (CPW 2020)

Common Name	Scientific Name	Type of Occurrence (CPW 2020)	Status[1,2]
Mammals			
Big brown bat	*Eptesicus fuscus*	Overall range	n/a
Black bear	*Ursus americanus*	Overall range	n/a
Black-tailed prairie dog	*Cynomys ludovicianus*	Overall range Colony potential occurrence	SC, S3
Hoary bat	*Lasiurus cinereus*	Overall range	n/a
Little brown myotis	*Myotis lucifugus*	Overall range	n/a
Mule deer	*Odocoileus hemionus*	Overall range	n/a
Preble's meadow jumping mouse	*Zapus hudsonius preblei*	Overall range	FT, ST, S1
Pronghorn	*Antilocapra americana*	Overall range	n/a
Swift fox	*Vulpes velox*	Overall range	SC, S3
Western red bat	*Lasiurus blossevillii*	Overall range	n/a
White-tailed deer	*Odocoileus virginianus*	Overall range Concentration area	n/a
Birds			
Band-tailed pigeon	*Patagioenas fasciata*	Breeding range	S4B
Brewer's sparrow	*Spizella breweri*	Breeding range	S4B
Burrowing owl	*Athene cunicularia*	Breeding range	ST
Cassin's sparrow	*Peucaea cassinii*	Breeding range	n/a
Golden eagle	*Aquila chrysaetos*	Breeding range	BGEPA, S3S4B
Grasshopper sparrow	*Ammodramus savannarum*	Breeding range	S3S4B
Lark bunting	*Calamospiza melanocorys*	Breeding range	S4
Lazuli bunting	*Passerina amoena*	Breeding range	S5B
Mountain plover	*Charadrius montanus*	Breeding range	S2B
Northern harrier	*Circus hudsonius*	Breeding range	S3B
Prairie falcon	*Falco mexicanus*	Breeding range	S4B, S4N
Rufous hummingbird	*Selasphorus rufus*	Migration range	n/a
Scaled Quail	*Callipepla squamata*	Overall range	n/a
Swainson's hawk	*Buteo swainsoni*	Overall range	S5B
Virginia's warbler	*Oreothlypis virginiae*	Breeding range	S5

Table 2. SAM Wildlife Potential for Occurrence (CPW 2020) (Continued)

Common Name	Scientific Name	Type of Occurrence (CPW 2020)	Status[1,2]
Reptile and Amphibians			
Bullsnake	*Pituophis catenifer sayi*	Overall range	n/a
Coachwhip	*Phrynosoma hernadesi*	Overall range	n/a
Hernandez's short-horned lizard	*Phrynosoma hernadesi*	Overall range	n/a
Lesser earless lizard	*Holbrookia maculate*	Overall range	n/a
Milksnake	*Lampropeltis elapsoides*	Overall range	n/a
Many-lined skink	*Plestiodon multivirgatus*	Overall range	n/a
Northern leopard frog	*Lithobates pipiens*	Overall range	SC, S3
Ornate box turtle	*Terrapene ornata ornata*	Overall range	n/a
Painted turtle	*Chrysemys picta*	Overall range	n/a
Plains garter snake	*Thamnophis radix*	Overall range	n/a
Prairie lizard	*Sceloporus consobrinus*	Overall range	n/a
Prairie rattlesnake	*Crotalus viridis*	Overall range	n/a
Six-lined racerunner	*Aspidoscelis sexlineata*	Overall range	n/a
Smooth greensnake	*Opheodrys vernalis*	Overall range	n/a
Terrestrial gartersnake	*Thamnophis elegance*	Overall range	n/a

[1]FT=Federally Threatened; ST=State Threatened; SC=State Species of Concern; BGEPA=Bald and Golden Eagle Protection Act

[2]CNHP State (S) Status: 1=Critically Imperiled; 2=Imperiled; 3=Vulnerable; 4=Apparently Secure, but Cause for Long Term Concern; 5=Demonstrably Secure; B=Breeding; N=Non-breeding

S#S# - Numeric range rank (with range no greater than 2); greater uncertainty about a rank is expressed by indicating the full range of ranks which may be appropriate (for example, a S1S3 rank indicates the rank could be S1, S2, or S3)

Following review of the SAM data, a site reconnaissance was performed to field-verify the data and perform a general wildlife survey. In general, the site provides moderate quality habitat for wildlife. There are three primary native plant communities; shortgrass prairie, mixed-grass prairie, and wet meadow. Although the site has been previously grazed and there have been some modifications to hydrology, native vegetation is extensive and diverse with few weeds. This is likely because the species on site are adapted to fluctuating hydrology, there is an extremely diverse seed bank, and there is minimal surface flow onto the site from disturbed upstream areas. There are a few areas of greater disturbance, primarily large patches dominated by non-native kochia that cover roughly 10 percent of the site. Invasive weeds,

including Canada thistle and Russian olive, are present in mesic habitats in relatively low numbers.

Few wildlife species, and none of the species listed in the SAM data, were observed during the site visit. While some of the species listed in the SAM data may occur on the site, the majority are not expected based on the limited habitat availability and surrounding development. Many of the listed species are grassland specialists that require larger tracts of contiguous habitat.

The Project area provides some habitat for mammals including rodents, deer, and carnivores. The only mammal observed in the uplands was a black-tailed jackrabbit (*Lepus californicus*), a species that does not typically use burrows. No black-tailed prairie dogs (*Cynomys ludovicianus)* or active prairie dog burrows were observed; this species generally prefers less sandy soils. The SAM data includes the site in the overall range of the Preble's meadow jumping mouse (*Zapus hudsonius preblei* or PMJM). This species is both state- and federally listed as threated, but the USFWS IPAC database did not include the PMJM as being potentially impacted by the project, likely because the project area is within the USFWS' Colorado Springs Block Clearance Area for this species (Table 3). The Project area is suitable year-round range for white-tailed deer (*Odocoileus virginianus*), mule deer (*O. hemionus*), and pronghorn (*Antilocapra americana*). The site is within a white-tailed deer concentration area and they were seen on nearby properties. Multiple medium-sized burrows, with den entrances of six to ten-inch diameter, were observed (Appendix II). One seemingly inactive den entrance was observed along the gulch. Six more were observed in the uplands, mostly on the mixed-grass prairie hill. Several burrow entrances had fresh tracks and digging, others appeared to be inactive. Multiple mammal species may dig or re-use burrows of this size. Occupants can sometimes be identified based on tracks or scat, but wildlife cameras are the most reliable way to identify which species are using burrows. The inactive den entrance along the gulch is the typical size and location for a badger (*Taxidea taxus*). Swift fox (*Vulpes velox*), a prairie specialist and state species of concern, often re-use badger dens and prefer dens in flat or slightly elevated prairie. Thus, either badgers or swift foxes are likely occupants of the hillside burrows. However, other possible residents include striped skunk (*Mephitis mephitis*), red fox (*Vulpes vulpes*), or hibernating groundhogs (*Marmota monax*).

Birds were the most common wildlife observed on the site during the reconnaissance. Observed species included American tree sparrows (*Spizella arborea*), horned larks (*Eremophila alpestris*), one common raven (*Corvus corax*), and one northern flicker (*Colaptes auratus*). A great horned owl (*Bubo virginianus*) was heard calling from the trees near the house. No nest was seen, but the large cottonwood trees are good nesting habitat for this and other raptor species. More bird species will be present in the spring and summer. The dens on site could be used by burrowing owls (*Athene cunicularia*), a state threatened species. However, in Colorado this species is typically associated with prairie dog colonies and burrowing owls are not expected on the site. Grassland birds could nest on the site and there is breeding habitat for grasshopper sparrows (*Ammodramus savannarum)*, which CNHP categorizes as possibly vulnerable. The site also provides ample nesting habitat for northern harriers (*Circus hudsonius*), which nests on the ground in grasslands.

No reptiles or amphibians were observed during the late fall site visit. The areas of standing water on site are potential habitat for the state-listed northern leopard frog; however, this species typically occurs in areas with some deeper water for it to hide in. The wetlands are also potential habitat for garter snakes (*Thamnopsis* spp.). Most of the other SAM listed reptiles are associated with grasslands and some of these could occur.

3.8. Federally Listed T&E Species

The USFWS IPaC database (USFWS 2020a) was used to determine the likelihood of occurrence of federally listed T&E species within the Project area. The IPaC query listed eight species, including four birds, two fishes, and two flowering plants with the potential be impacted by the Project (Table 3. Federally Listed T&E Species Potentially Impacted by the Project). B.E. has provided our professional opinion regarding the probability that these species may occur within the Project site and their probability of being impacted by Project development.

Table 3. Federally Listed T&E Species Potentially Impacted by the Project (USFWS 2020a)

Common Name	Scientific Name	Habitat Requirements and Likelihood of Impacts	Federal Status[1]
Birds			
Least tern	*Sternula antillarum*	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska. **Likelihood of impacts: None, Project is not within the watersheds listed.**	FE
Mexican spotted owl	*Strix occidentalis lucida*	Requires mature, old-growth forests of white pine, Douglas fir, or ponderosa pine and narrow canyons with steep slopes and rocky cliffs (Gutiérrez et al. 1995). The closest USFWS designated Critical habitat is 15 miles west in mountainous terrain (USFWS, 2017b). **Likelihood of impacts: None, habitat not present.**	FT
Piping plover	*Charadrius melodus*	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska. **Likelihood of impacts: None, Project is not within the watersheds listed.**	FT
Whooping crane	*Grus americana*	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska. **Likelihood of impacts: None, Project is not within the watersheds listed.**	FE

Table 3 Cont. Federally Listed T&E Species Potentially Impacted by the Project (USFWS 2020a)

Common Name	Scientific Name	Habitat Requirements and Likelihood of Impacts	Federal Status[1]
Fishes			
Greenback cutthroat trout	*Oncorhynchus clarkii stomias*	Cold, clear, gravely headwater streams and mountain lakes that provide an abundant food supply of insects. Genetic sampling has confirmed that the only remaining native pure-strain population occurs in a four mile stretch of creek outside of its native range in Bear Creek (Metcalf et al. 2012). Reintroduction efforts are ongoing in the South Platte River system. **Likelihood of impacts: None, habitat not present.**	FT
Pallid sturgeon	*Scaphirhynchus albus*	Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska. **Likelihood of impacts: None, Project is not within the watersheds listed.**	FE
Flowering Plants			
Ute ladies'-tresses orchid	*Spiranthes diluvialis*	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, gravel pits, borrow pits, and other human-modified wetlands. The sub-irrigated wetland meadows with diverse, low, herbaceous vegetation are ideal habitat, but there are no known populations in El Paso County, and surveys are not required above 6,500 feet (USFWS 1992). **Likelihood of impacts: Low, the site is outside of this species expected range and the site is not in an area that requires surveys.**	FT
Western prairie fringed orchid	*Platanthera praeclara*	Occurs in tallgrass prairie in Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and Oklahoma. Water-related activities/use in the N. Platte, S. Platte and Laramie River Basins may affect listed species in Nebraska. **Likelihood of impacts: None, Project is not within the watersheds listed.**	FT

[1]FE= Federally Endangered; FT=Federally Threatened

4.0 SUMMARY OF IMPACTS

4.1. Vegetation

Vegetation will be unavoidably disturbed through development of the Project site for commercial use. The entire site (58-acres) would be graded and then either paved or landscaped. The majority of the site consists of shortgrass prairie with smaller areas of wetlands, mixed-grass prairie, and disturbed areas. The shortgrass prairie includes some disturbed areas were kochia is common or dominant, thus quality it low to moderate overall. Based on CNHP data for sensitive vegetation communities and site reconnaissance, there are two or three globally or state-sensitive vegetation communities (Table 2) (CNHP 2020). The hillside occurrence of mixed-grass prairie is in good condition with few weeds. The abundant little bluestem intermixed with diverse grassland species is similar to the community described by CNHP as little bluestem with sideoats grama (*Schizachyrium scoparium – Bouteloua curtipendula*), a state imperiled and globally rare mixed-grass prairie community. There are additional areas of more general mixed-grass prairie on the eastern side of the site. The sub-irrigated wet meadows are mostly in excellent condition and support a diverse mosaic of wetland plants and communities including two CNHP-listed state-sensitive communities, the imperiled clustered field sedge (*Carex praegracilis*) Wet Meadow and the uncommon three square (*Schoenoplectus acutus*) marsh. The entire wet meadow complex is an uncommon and biologically diverse area, although it does not fit into the narrow plant community descriptions. The diverse wetlands on site and in the nearby Kelso Prairie PCA are supported by shallow groundwater flow. Development in the Falcon area that alters hydrology could indirectly impact downstream wetlands; the most impactful activities are those that decrease groundwater infiltration, block shallow groundwater flow, or increase surface flows.

4.2. Aquatic Resources

Aquatic resources consist of multiple high quality wet meadows (Figure 5). There is also one severely eroding gulch and an abandoned farm pond; these areas are disturbed but they contain diverse wetland vegetation with few weeds. The total wetland area is roughly 7.2 acres. The two main wetland area (gulch and slough) continue beyond the site, merge south of Falcon Road, and eventually end in uplands west of Blaney Road. There is no surface connection to downstream wetlands from this point, thus it is B.E.'s professional opinion that the field-delineated wetlands on the site would not be considered jurisdictional because there is not a continuous surface connection to downstream WOTUS. However, only the USACE may determine the regulatory status of aquatic features under the Clean Water Act.

4.3. Noxious Weeds

Noxious weeds are present on the Project site in several areas but in generally limited quantities. There were no large concentrations of noxious weeds, but scattered noxious weeds were found throughout various portions of the site. List A Species, which require reporting and eradication by Colorado law (Colorado Department of Agriculture [CDA] 2006), were not detected. List B Species require either eradication, containment, or

suppression; List C Species require control through either public education or chemical control. List B and List C Species that were detected during the site reconnaissance included:

List B

- Canada thistle
- Russian olive
- Musk thistle

List C

- Common mullein

It is possible that additional noxious weed populations may be present on the site. A site inventory to identify and map noxious weeds during the growing season would be required to accurately catalogue all populations on the site. A Noxious Weed Management Plan has been prepared for the Project (Appendix III) detailing recommendations for identifying and controlling the spread of noxious weeds prior to, during, and/or post-construction.

4.4. Wildfire

The wildfire risk for the majority of the Site is mapped as "High" and the burn probability is rated as "Moderate-High," presumably based on the presence of numerous homes and structures surrounded by mostly dry grasslands. Development of the site would increase the values and assets, while simultaneously reducing available wildfire fuels. The Project is expected to reduce the overall wildfire risk index for the Site, especially close to U.S. Highway 24 which would become similar to the commercial areas to the north that are currently mapped as "Lowest Risk" and "Non-Burnable."

4.5. Wildlife

Although wildlife use of the site is fairly low, some wildlife will inevitably be affected by development of the Project area. Based on the findings of the site reconnaissance, B.E. classifies the expected impacts as relatively low due the small size of the site and surrounding development. Since grasslands are the most dominant habitat type, grassland species are expected to experience the greatest negative impacts due to habitat loss. Construction could also directly impact reptiles, amphibians, rodents, nesting birds, and burrowing mammals.

4.6. Federally Listed T&E Species

Federally listed T&E species are not expected to occur on the Project. All species listed either occur in habitats that were not present on the site or would only conditionally be affected if development were to affect downstream populations in different river systems. Although habitat appears to be suitable for the ULTO, the site is above the elevation (6,500') at which this species is known to occur and the typical elevation for which the USFWS requires surveys.

5.0 RECOMMENDATIONS

Upon completion of a desktop review, site reconnaissance, and routine wetland delineation, B.E. finds that few environmental constraints are present within the Project area. This assumes that the wetlands on-site are not WOTUS under USACE jurisdiction. Constraints are summarized below within the regulatory context that they apply, and recommendations are provided.

5.1. Clean Water Act

Section 404 of the Clean Water Act prohibits the discharge of dredged or fill material into WOTUS (including wetlands) without a valid permit. Wetlands are present on site (roughly 7.2 acres), but are not expected to be WOTUS under USACE jurisdiction. Since only the USACE has the authority to determine the regulatory status of aquatic features, a jurisdictional determination request should be submitted to the USACE early in the project design process and prior to construction. If the USACE determines that the wetlands are jurisdictional, then the project would require a Section 404 permit and mitigation for impacts to jurisdictional wetlands. If permanent impacts to WOTUS under USACE jurisdiction exceed 0.5 acres, then a USACE Individual Permit would be required prior to construction and mitigation would also be required.

5.2. Endangered Species Act

Section 9(a)(1) of the Endangered Species Act prohibits the take of federally listed species and their habitats, and defines such take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 U.S.C. § 1531). There are no known PMJM populations nearby and the site is located within the Colorado Springs Preble's Block Clearance zone, so consultation with the USFWS is not required (USFWS, 2017). Another federally-listed species, the Ute ladies'-tresses orchid, has a very low likelihood of occurring. The sub-irrigated wet meadows within the Project area are ideal habitat for this species. However, the site is above the altitudinal threshold for ULTO surveys of 6,500 feet. Therefore, it is not expected to occur and the USFWS does not require surveys. No impacts to federally-listed species are anticipated from site development and no further due diligence recommendations are provided.

5.3. Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act

Migratory birds, and the parts, nests, or eggs of such a bird receive statutory protection under the MBTA, which prohibits intentional take of migratory birds. Bald and golden eagles (*Haliaeetus leucocephalus* and *Aquila chrysaetos*, respectively) receive additional statutory protection from accidental take and disturbance under the BGEPA, but are not expected to occur. Both acts particularly apply to nesting birds and their nests. There were no nests observed on the site, but the large cottonwood trees around the house are suitable nesting habitat for many species, including raptors, and a great horned owl was heard in this area. Further nesting substrates for other migratory birds are present in the form of open grasslands and shrubs along the gulch, all of which are expected to be used by some migratory birds during the nesting season.

It is recommended that vegetation clearing/grubbing of the site occur outside of the nesting season (March 15th to July 31st) to avoid disturbing nesting migratory birds. If clearing must be completed during the nesting season, then pre-construction surveys for nesting birds may be required.

5.4. Colorado Noxious Weed Act

In order to ensure Project compliance with the Colorado Noxious Weed Act, and to comply with the requirements of El Paso County's Noxious Weed Management Plan Act, the Noxious Weed Management Plan referenced in this report should be implemented, and further site-specific weed management should be implemented on an ongoing basis.

5.5. Non-Statutory Considerations

There is potential for other wildlife, including some big game, to occur within the site. However, no big game migratory routes traverse the Project. In addition, ranges for several migratory birds, including the state-threatened burrowing owl, overlap the Project area, though burrowing owls are not expected to occur based on the absence of prairie dogs. Coordination with CPW would determine the appropriate avoidance measures to take during and after construction regarding general wildlife.

Minimizing hydrologic impacts to both surface water and ground water can reduce indirect downstream wetland impacts. Preserving existing wet meadows and other native vegetation to the extent possible will help to maintain groundwater infiltration and downstream connectivity, while also preserving native plants. For example, consider using ungraded portions of the existing wetland meadows for stormwater detention instead of constructing new basins. If new basins are constructed, the bottoms should be lined with wetland topsoil and the sides with prairie topsoil. Runoff should be managed on site to prevent increased surface flows from eroding downstream habitats.

Should you have any questions regarding the information or recommendations provided in this report, please feel free to contact Bristlecone Ecology at dmaynard@bristleconeecology.com.

Sincerely,

Bristlecone Ecology, LLC

Daniel Maynard
Ecologist

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APPENDIX I

WETLAND DELINEATION DATA FORMS

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Falcon Field City/County: Falcon/El Paso County Sampling Date: Nov 30, 2020

Applicant/Owner: Falcon Field LLC State: Colorado Sampling Point: 1

Investigator(s): Julia Auckland Section,Township,Range: S7 T13S R64W

Landform(hillslope,terrace,etc.): Low area along drainge swale Local relief(concave,convex,none): Concave Slope(%): 2

Subregion (LRR): G Western Great Plains Lat: 38.937449 Long: -104.597779 Datum: WGS84

Soil Map Unit Name: Columbine Gravelly Sandy Loam 0-3% NWI classification: none

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 ____

Hydric Soil Present? Yes ✓ No ____

Wetland Hydrology Present? Yes ✓ No ____

Is the Sampled Area within a Wetland ? Yes ✓ No ____

Remarks: Point in PEM meadow 20' east of drainage swale.
Falcon area is in severe drought (drought.gov).

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30.0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15.0)			
1. Salix exigua	5	YES	FACW
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 5.0)			
1. Carex praegracilis	85	YES	FACW
2. Bouteloua gracilis	5	NO	UPL
3. Ambrosia psilostachya	2	NO	FACU
4. Hordeum jubatum	5	NO	FACW
5. Plantago major	1	NO	FAC
6.			
7.			
8.			
9.			
10.			
	98 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (excluding FAC-) 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	X 1 =	0
FACW species	95	X 2 =	190
FAC species	1	X 3 =	3
FACU species	2	X 4 =	8
UPL species	5	X 5 =	25
Column Totals:	103 (A)		226 (B)

Prevalence Index = B/A = 2.19

Hydrophytic Vegetation Indicators:

✓ 1. Rapid Test for Hydrophytic Vegetation

✓ 2. Dominance Test is > 50%

✓ 3. Prevalence index is <= 3.0[1]

____ 4. Morphological Adaptations (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: 1

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	2.5Y 2/1	18	5YR 5/6	2	C	PL	sandy loam	
	2.5Y 4/3	80						
2-10	2.5Y 2/1	80	5YR 5/6	3	C	PL	clay loam	
	2.5Y 4/3	17						
10-20	2.5Y 2/1	100					sandy loam	moist

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered, 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 (B5)
- ____ 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 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): 0

Hydric Soil Present? Yes ✓ No ____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicator (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 Rhizosphere on Living Roots(C 3) (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) 20

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks: Slightly moist below 2", sat by 20. There is shallow subsurface flow from east to west as evidenced by wetlands and visible seeps along the nearby bank of the stream/old pond.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Falcon Field City/County: Falcon/El Paso County Sampling Date: Nov 30, 2020

Applicant/Owner: Falcon Field LLC State: Colorado Sampling Point: 2

Investigator(s): Julia Auckland Section,Township,Range: S7 T13S R64W

Landform(hillslope,terrace,etc.): upland field Local relief(concave,convex,none): Concave Slope(%): 2

Subregion (LRR): G Western Great Plains Lat: 38.937441 Long: -104.597562 Datum: WGS84

Soil Map Unit Name: Columbine Gravelly Sandy Loam 0-3% NWI classification: none

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 ✓

Hydric Soil Present? Yes ____ No ✓

Wetland Hydrology Present? Yes ____ No ✓

Is the Sampled Area within a Wetland ? Yes ____ No ✓

Remarks:

Falcon area is in severe drought (drought.gov).
Near SP1

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30.0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15.0)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		

Herb Stratum (Plot size: 5.0)			
1. Elymus trachycaulus	70	YES	FACU
2. Bouteloua gracilis	20	YES	UPL
3. Ambrosia psilostachya	5	NO	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	95 = Total Cover		

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	X 1 =	0
FACW species	0	X 2 =	0
FAC species	0	X 3 =	0
FACU species	75	X 4 =	300
UPL species	20	X 5 =	100
Column Totals:	95 (A)		400 (B)

Prevalence Index = B/A = 4.21

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

____ 2. Dominance Test is > 50%

____ 3. Prevalence index is <= 3.0[1]

____ 4. Morphological Adaptations (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: 2

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
0-4	2.5Y 2/1	100					sa cl loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered, 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 (B5)
- ____ 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 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): 0

Hydric Soil Present? Yes ____ No ✓

Remarks: Soil is too dry and crumbly. Auger won't catch. Sandy clay loam

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicator (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 Rhizosphere on Living Roots(C 3) (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: Soil totally dry

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Falcon Field City/County: Falcon/El Paso County Sampling Date: Nov 30, 2020

Applicant/Owner: Falcon Field LLC State: Colorado Sampling Point: 3

Investigator(s): Julia Auckland Section,Township,Range: S7 T13S R64W

Landform(hillslope,terrace,etc.): Flat, wet meadow Local relief(concave,convex,none): Concave Slope(%): 1

Subregion (LRR): G Western Great Plains Lat: 38.939205 Long: -104.598208 Datum: WGS84

Soil Map Unit Name: Columbine Gravelly Sandy Loam 0-3% NWI classification: none

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 ____

Hydric Soil Present? Yes ✓ No ____

Wetland Hydrology Present? Yes ✓ No ____

Is the Sampled Area within a Wetland ? Yes ✓ No ____

Remarks: Point in flat sedge meadow, 80' east of 12'-deep eroded gully. Based on aerials, the gully was formed by stormwater runoff from the shopping center to the north that was constructed between 1999 & 2003. Prior this development, there was no visible defined channel. Falcon area is in severe drought (drought.gov).

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30.0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15.0)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		

Herb Stratum (Plot size: 5.0)			
1. Schoenoplectus pungens	85	YES	OBL
2. Agrostis gigantea	5	NO	FACW
3. Symphyotrichum lanceolatum	4	NO	FACW
4. Juncus torreyi	5	NO	FACW
5. Triglochin sp.	1	NO	OBL
6.			
7.			
8.			
9.			
10.			
	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: (excluding FAC-) 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	86	X 1 =	86
FACW species	14	X 2 =	28
FAC species	0	X 3 =	0
FACU species	0	X 4 =	0
UPL species	0	X 5 =	0
Column Totals:	100 (A)		114 (B)

Prevalence Index = B/A = 1.14

Hydrophytic Vegetation Indicators:

✓ 1. Rapid Test for Hydrophytic Vegetation

✓ 2. Dominance Test is > 50%

✓ 3. Prevalence index is <= 3.0[1]

____ 4. Morphological Adaptations (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: 3

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
0-7	10YR 2/1	99	5YR 4/6	1	C	PL	clay loam	saturated, 0-4" 20% roots
7-12	Gley 2 4/5PB	100					sandy loam	saturated
12-16	Gley 1 3/5GY	100					sandy loam	water table
								30%gravel 1-3mm

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered, 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 (B5)
- ____ 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 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): 0

Hydric Soil Present? Yes ✓ No ____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicator (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 Rhizosphere on Living Roots(C 3) (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

Water Table Present? Yes ✓ No ____ Depth (Inches) 12

Saturation Present? (includes capillary fringe) Yes ✓ No ____ Depth (Inches) 0 (at surface)

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks: Point in wettest area with surface saturation due to shallow water table and small springs, even after months of drought. Sub-irrigated wetland. Water table here is ~15 feet above the surface water in the bottom of nearby eroded gully. Groundwater flow direction is likely to the south and west.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Falcon Field City/County: Falcon/El Paso County Sampling Date: Nov 30, 2020

Applicant/Owner: Falcon Field LLC State: Colorado Sampling Point: 4

Investigator(s): Julia Auckland Section,Township,Range: S7 T13S R64W

Landform(hillslope,terrace,etc.): Flat, wet meadow Local relief(concave,convex,none): Convex Slope(%): 2

Subregion (LRR): G Western Great Plains Lat: 38.939198 Long: -104.598298 Datum: WGS84

Soil Map Unit Name: Columbine Gravelly Sandy Loam 0-3% NWI classification: none

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 ____

Hydric Soil Present? Yes ✓ No ____

Wetland Hydrology Present? Yes ✓ No ____

Is the Sampled Area within a Wetland ? Yes ✓ No ____

Remarks: Point in transitional area between sedge meadow and blue grama upland. 50 east of 12'-deep eroded gully. Based on aerials, the gully was formed by stormwater runoff from the shopping center to the north that was constructed between 1999 & 2003. Prior to this development, there was no visible defined channel. Sub-irrigated wetland.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30.0)		Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15.0)				
1.				
2.				
3.				
4.				
5.				
		0	= Total Cover	
Herb Stratum (Plot size: 5.0)				
1.	Panicum virgatum	40	YES	FAC
2.	Agrostis gigantea	40	YES	FACW
3.	Elymus trachycaulus	20	YES	FACU
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		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: (excluding FAC-) 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	X 1 =	0
FACW species	40	X 2 =	80
FAC species	40	X 3 =	120
FACU species	20	X 4 =	80
UPL species	0	X 5 =	0
Column Totals:	100 (A)		280 (B)

Prevalence Index = B/A = 2.80

Hydrophytic Vegetation Indicators:

✓ 1. Rapid Test for Hydrophytic Vegetation

✓ 2. Dominance Test is > 50%

✓ 3. Prevalence index is <= 3.0[1]

____ 4. Morphological Adaptations (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: 4

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
0-8	10YR 2/1	100					sa clay lo	0-4" dry, 4-8" moist
8-16	10YR 4/1	100					sandy loam	saturated, loose
								30% gravel 1-3mm

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered, 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 (B5)
- ____ 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 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): 0

Hydric Soil Present? Yes ✓ No ____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicator (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 Rhizosphere on Living Roots(C 3) (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) 8

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks: Drier than nearby SP3. No surface springs or surface saturation, but evidence of shallow groundwater continues along with a similar layer of highly porous gravelly sandy loam soil.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Falcon Field City/County: Falcon/El Paso County Sampling Date: Dec 1, 2020

Applicant/Owner: Falcon Field LLC State: Colorado Sampling Point: 5

Investigator(s): Julia Auckland Section,Township,Range: S7 T13S R64W

Landform(hillslope,terrace,etc.): Mesic meadow Local relief(concave,convex,none): Concave Slope(%): 1

Subregion (LRR): G Western Great Plains Lat: 38.939203 Long: -104.597691 Datum: WGS84

Soil Map Unit Name: Columbine Gravelly Sandy Loam 0-3% NWI classification: none

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 ____

Hydric Soil Present? Yes ✓ No ____

Wetland Hydrology Present? Yes ✓ No ____

Is the Sampled Area within a Wetland ? Yes ✓ No ____

Remarks:

Falcon area is in severe drought (drought.gov).

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30.0)		Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
		0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15.0)				
1.				
2.				
3.				
4.				
5.				
		0	= Total Cover	

Herb Stratum (Plot size: 5.0)				
1.	Carex praegracilis	35	YES	FACW
2.	Agrostis gigantea	30	YES	FACW
3.	Panicum virgatum	15	NO	FAC
4.	Symphyotrichum lanceolatum	10	NO	FACW
5.	Achillea millefolium	5	NO	FACU
6.	Elymus trachycaulus	2	NO	FACU
7.	Iris missouriensis	2	NO	FACW
8.	Schoenoplectus pungens	1	NO	OBL
9.				
10.				
		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: (excluding FAC-) 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	1	X 1 =	1
FACW species	77	X 2 =	154
FAC species	15	X 3 =	45
FACU species	7	X 4 =	28
UPL species	0	X 5 =	0
Column Totals:	100 (A)		228 (B)

Prevalence Index = B/A = 2.28

Hydrophytic Vegetation Indicators:

✓ 1. Rapid Test for Hydrophytic Vegetation

✓ 2. Dominance Test is > 50%

✓ 3. Prevalence index is <= 3.0[1]

____ 4. Morphological Adaptations (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: 5

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
0-10	2.5Y 2.5/1	100					sandy loam	
10-16	2.5Y 2.5/1	100					loamy sand	1-3 mm gravel 25%
16-24	2.5Y 4/1	90					loamy sand	
	2.5Y 4/3	10						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered, 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 (B5)
- ____ 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 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): 0

Hydric Soil Present? Yes ✓ No ____

Remarks: Similar soil and gravelly layer as at SP3 and 4.

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicator (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 Rhizosphere on Living Roots(C 3) (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: Soil moist from 0-24" but not saturated.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Falcon Field | City/County: Falcon/El Paso County | Sampling Date: Dec 1, 2020

Applicant/Owner: Falcon Field LLC | State: Colorado | Sampling Point: 6

Investigator(s): Julia Auckland | Section,Township,Range: S7 T13S R64W

Landform(hillslope,terrace,etc.): Slope above low meadow | Local relief(concave,convex,none): Convex | Slope(%): 2

Subregion (LRR): G Western Great Plains | Lat: 38.939061 | Long: -104.597302 | Datum: WGS84

Soil Map Unit Name: Columbine Gravelly Sandy Loam 0-3% | NWI classification: none

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 ✓

Hydric Soil Present? Yes ____ No ✓

Wetland Hydrology Present? Yes ____ No ✓

Is the Sampled Area within a Wetland ? Yes ____ No ✓

Remarks:

Falcon area is in severe drought (drought.gov). Point is on gentle slope a couple feet higher than adjacent wet meadow (SP5).

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30.0)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15.0)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		

Herb Stratum (Plot size: 5.0)			
1. Bouteloua gracilis	30	YES	UPL
2. Elymus trachycaulus	20	YES	FACU
3. Andropogon gerardii	10	NO	FACU
4. Symphyotrichum lanceolatum	20	YES	FACW
5. Artemisia frigida	6	NO	UPL
6. Ratabida columnifera	4	NO	UPL
7.			
8.			
9.			
10.			
	90 = Total Cover		

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 10

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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	X 1 =	0
FACW species	20	X 2 =	40
FAC species	0	X 3 =	0
FACU species	30	X 4 =	120
UPL species	40	X 5 =	200
Column Totals:	90 (A)		360 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

____ 2. Dominance Test is > 50%

____ 3. Prevalence index is <= 3.0[1]

____ 4. Morphological Adaptations (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: 6

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
0-16	2.5Y 3/1	100					loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered, 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 (B5)
- ____ 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 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): 0

Hydric Soil Present? Yes ____ No ✓

Remarks: Dark soil, not reduced

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicator (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 Rhizosphere on Living Roots(C 3) (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: Soil moist from 0-24” but not saturated.

APPENDIX II

PHOTOGRAPHIC LOG

View from the southeast portion of the site facing towards the northwest corner of the site and State Highway 24. Shortgrass prairie dominated by blue grama is the predominant upland vegetation here. Some sparse kochia is visible in the foreground (dark spots) and the reddish colored little bluestem of the mixed-grass prairie is faintly visible along the hilltop.

The hill slope on the west side of the site is vegetated with mixed-grass prairie. The dominant plant species are little bluestem, prairie sandreed, and sand dropseed with lesser amounts of blue grama.

Den entrance located in the southern portion of the site. Multiple medium sized burrows, with entrances of six to ten-inch diameter, were noted. Potential occupants include badger, fox, or skunk.

Photo taken from the small dam, facing northeast across shrub-scrub wetlands in the abandoned pond. The gulch is visible to the left of the large concrete culverts and to the right of the culverts it daylights into a wide, marshy channel. Sampling points (SP) 1 and 2 were completed in a low area on the east bank of the channel. The pond has mostly filled in with sand deposits carried by high flows.

Photo taken in the gulch below SP 4 and facing south (downstream). Water flowing at the gulch bottom is approximately ten feet wide, eight inches deep, and supports dense emergent wetland vegetation. Along the sides of the gulch and above the channel, there are saturated soils associated with small seeps and springs. Saturated soils are eroding in steep areas and support sparse wetland vegetation on flat benches above the channel.

Photo taken from near the north corner of the site facing northwest towards the large box culvert at the north end of the gulch at State Highway 24. In the foreground is a large wet meadow where some areas are saturated at the surface and dominated by three-square rush (SP 3), an obligate wetland species. The drier wetlands (SP 4) are more diverse, with redtop and switchgrass being two of the most common species, both here and in other wet meadows.

Northwest corner of the site, photo taken from the SP 6 (upland) located slightly above SP 5 (wetland) and facing north towards Rio Lane. The diverse vegetation at these sampling points is typical of upland/wetland transitional areas on most of the site.

Northeast portion of the site, facing east along Rio Road. Wetland vegetation along the fence is dominated by Nebraska sedge in areas with standing water and three-square in areas without standing water. The patch of large trees growing along the road is at the north end of the slough that drains across the site to the southeast (right).

Photo taken from near the north end of the slough, facing southeast (downstream). Wetland vegetation extended several vertical feet above the slough on both sides.

Photo taken from near the southeast corner of the site facing southeast across a flat, saltgrass dominated wet meadow with visible surface saturation (ice). The small tufted grass in the foreground is Nutall's alkaligrass and the dark vegetation to the left is pursh seepweed.

APPENDIX III

NOXIOUS WEED MANAGEMENT PLAN