



May 3, 2021

David Tewkesbury
Crestone Peak Resources, LLC
1801 California Street, Suite 2500
Denver, CO 80202

RE: Spine G Pipeline Environmental Review and Site Inspection, Adams & Arapahoe Counties, CO

Mr. Tewkesbury,

This letter report describes methods, findings, and recommendations regarding the assessment of sensitive plant and wildlife resources and at the Spine G Pipeline project site.

1.0 INTRODUCTION

Apex Companies, LLC (Apex) completed an environmental review and site inspection for the Spine G Pipeline, located in section 34 of township 3 south range 65 west and sections 2 and 3 of township 4 south range 65 west, in Adams and Arapahoe Counties, Colorado (Attachment A - Figure 1). The purpose of this review is to provide Crestone Peak Resources, LLC (CPR) with information regarding potential environmental constraints at the site in order to comply with the Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act (BGEPA), Colorado Parks and Wildlife (CPW) guidelines, Colorado Oil and Gas Conservation Commission (COGCC) 1200 series rules, and U.S. Clean Water Act Section 404.

2.0 METHODS

For the purpose of identifying sensitive resources that might be impacted by the construction of the Spine G Pipeline, the Project Area is defined as a 100-foot buffer around the pipeline to account for the construction easement and any temporary workspaces. All potential constraints were surveyed in relation to the Project Area, but all measurements are reported in relation to the pipeline.

Apex conducted a desktop review to identify federally and state listed threatened and endangered (T&E) or sensitive species and habitat, and any other potential natural resource constraints, potentially occurring within the Project Area. Resources referenced for the desktop review included aerial imagery, the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Mapper, the U.S. Geological Survey (USGS) National Hydrography Dataset (NHD), USFWS Information for Planning and Consultation (IPaC) system, CPW High Priority Habitat (HPH) and Species Activity Mapping (SAM) data, and a proprietary database of over 1,500 mapped raptor nests throughout the Denver-Julesburg (DJ) Basin.

The desktop review was followed by a site survey to confirm the presence of any sensitive resources identified during the desktop review and to search for others not previously identified within the Project Area. The field site survey was conducted on April 27, 2021 and included a pedestrian and windshield survey of the site and surrounding areas accessible by landowner permission. Photographs depicting the Project Area are provided in Attachment B.

3.0 RESULTS & RECOMMENDATIONS

3.1 Wetlands and Waters of the U.S.

There are no wetlands or other potential waters of the U.S. within the Project Area. The NHD and NWI datasets indicate that tributaries of Box Elder Creek intersect the pipeline in four (4) locations (Attachment A - Figure 2); however, no evidence of hydrophytic vegetation or signs of surface waters was observed at these locations (Attachment B - Photos 3 – 6, 12 – 13, and 15).

Stormwater control measures are present along the existing oil and gas pad at the southern end of the pipeline and along the access road north and south of Interstate 70 (Attachment B - Photos 10 – 13, and 18). These features are State Waters subject to Colorado Department of Public Health and Environment (CDPHE) stormwater and water quality regulations, but they are not subject to federal Clean Water Act (CWA) Section 404 regulations managed by the U.S. Army Corps of Engineers.

No Clean Water Act Section 404 permit will be necessary for pipeline construction. Stormwater control measures within the Project Area may be subject to CDPHE regulations.

3.2 100-Year Floodplain

The northeastern portion of the pipeline is along the boundary of the Federal Emergency Management Agency (FEMA)-mapped 100-year floodplain for a tributary of Box Elder Creek (Figure 2)

An Adams County Floodplain Use Permit may be required.

3.3 Eagles & Other Raptors

There are a few trees suitable for nesting eagles within ½ mile of the Project Area; however, nesting is unlikely due to their proximity to Interstate 70 and residences. There are no mapped bald eagle winter night roost areas within ½ mile of the Project Area.

There are three (3) known non-eagle raptor nests within one-half mile of the Project Area, as well as additional trees suitable for nesting raptors. One nest (4S65W_3D_RA) was active with at least one great horned owl nestling at the time of the field site survey; this nest is located 0.4 mile southwest of the pipeline, outside the CPW-recommended 0.125-mile buffer for active great horned owl nests. The other two nests (3S65W_34N_RA and 4S65W_2C_RA), located 0.1 mile southwest and 0.38 mile east of the pipeline, were both inactive at the time of the field site survey (Figure 2).

Apex recommends raptor nesting surveys approximately one week prior to the start of construction if construction begins between February 1 and July 31.

3.4 Burrowing Owls

There are two separate areas of suitable burrowing owl habitat within 660 feet of the Project Area: BUOW_A368 overlaps the northeastern portion of the pipeline, and BUOW_A493 is approximately 30 feet south of the middle horizontal section of the pipeline. BUOW_A368 is also mapped by CPW as an active nest location (Figure 2). At least four (4) burrowing owls (two pairs) were observed in BUOW_A368 during the field site survey, perched within 40 feet of the pipeline, at the closest. No burrowing owls were observed in BUOW_A493.

CPW recommends no human encroachment activities within 660 feet (or 1,320 feet [one-quarter mile] for large industrial disturbances such as drilling) of any nest site during the nesting season from March 15 through August 31. CPW also recommends that efforts to eradicate prairie dog towns or destroy abandoned towns not occur between March 15 and October 31 when owls may be present.

Apex recommends additional burrowing owl surveys if construction will begin between March 15 and October 31 to determine if the owls remain present. CPW recommends three consecutive negative burrowing owls, each separated by approximately one week, to conclude that burrowing owls are not present. If burrowing owls are determined to be present and nesting within 660 feet, CPW recommends delaying activities until after October 31 or until it can be confirmed that the owls are no longer present.

3.5 Migratory Birds

The IPaC query listed six (6) migratory birds that are either of conservation concern or warrant special attention that may occur in the Project Area. Three of the listed birds include the bald and golden eagle and the burrowing owl, all of which are discussed above (see Sections 3.3 and 3.4, respectively). The remaining three migratory birds listed in the IPaC report are the lark bunting (*Calamospiza melanocorys*), lesser yellowlegs (*Tringa flavipes*), and willet (*Tringa semipalmata*), all of which are ground nesting birds. In addition to these USFWS-listed birds of special concern, additional MBTA-protected migratory birds may also be impacted if construction activities occur during the migratory bird nesting season.

Observations were limited during the field site survey due to limited access and severe weather conditions; however, no non-raptor migratory bird nests were observed.

Apex recommends migratory bird nesting surveys within one week of the start of construction, if construction begins between April 1 and September 15.

3.6 High Priority Habitats

There are no High Priority Habitats within the Project Area or within one mile of the Project Area.

No further action is recommended.

3.7 Other Threatened, Endangered, and Sensitive Species

The IPaC query listed six (6) threatened and endangered species with potential to occur in the Project Area. No habitat for any of these six species is present within the Project Area. These species are discussed in greater detail in Table 1.

Table 1. USFWS T&E Species within the Project Area

Species & Status	Habitat Assessment Results	Recommendations
Mammals		
Preble's meadow jumping mouse (<i>Zapus hudsonius preblei</i>) Threatened	This species typically inhabits heavily vegetated streamside riparian habitats with adjacent grassy uplands (USFWS 2014). This species is not found in highly disturbed areas, landscaped, and maintained lawns, irrigation ditches with no vegetation, channels where water is diverted underground, or sites that are maintained as cropland (USFWS 1998). There is no habitat suitable for this species within the Project Area.	No further action is recommended at this time.
Birds		
Piping plover (<i>Charadrius melodus</i>) Threatened	This species only needs to be considered if the project includes water-related activities or use in the N. Platte, S. Platte, and Laramie River Basins that may affect listed species in Nebraska (USFWS 2018).	If proposed construction activities do consumptive use of surface waters tributary to the Platte River, no further action is necessary.
Whooping crane (<i>Grus americana</i>) Endangered	This species only needs to be considered if the project includes water-related activities or use in the N. Platte, S. Platte, and Laramie River Basins that may affect listed species in Nebraska (USFWS 2018).	If proposed construction activities do consumptive use of surface waters tributary to the Platte River, no further action is necessary.
Fishes		
Pallid sturgeon (<i>Scaphirhynchus albus</i>) Endangered	This species only needs to be considered if the project includes water-related activities or use in the N. Platte, S. Platte, and Laramie River Basins that may affect listed species in Nebraska (USFWS 2018).	If proposed construction activities do consumptive use of surface waters tributary to the Platte River, no further action is necessary.
Plants		
Ute ladies'-tresses (<i>Spiranthes diluvialis</i>) Threatened	This species is typically found in wet meadows, floodplains, stream beds, lakeshores, and other similar moist habitats (Fertig et al. 2005). There is no habitat suitable for this species within the Project Area.	No further action is recommended at this time.
Western prairie fringed orchid (<i>Platanthera praeclara</i>) Threatened	This species only needs to be considered if the project includes water-related activities or use in the N. Platte, S. Platte, and Laramie River Basins that may affect listed species in Nebraska (USFWS 2018).	If proposed construction activities do not include water-related activities or use of other nearby waters, no further action is recommended at this time.

4.0 REFERENCES

- (CPW) Colorado Parks and Wildlife. 2020. Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors (2020). Available online at: <https://cpw.state.co.us/Documents/WildlifeSpecies/LivingWithWildlife/Raptor-Buffer-Guidelines.pdf>. (Accessed April 2021)
- Fertig, W., R. Black, and P. Wolken. 2005. Rangewide Status Review of Ute Ladies'-Tresses (*Spiranthes diluvialis*). Prepared for the U.S. Fish and Wildlife Service and Central Utah Water Conservation District. 101 pp.
- (USFWS) U.S. Fish and Wildlife Service. 1998. Endangered and Threatened Wildlife and Plants; Final Rule to List the Preble's Meadow Jumping Mouse as a Threatened Species. Federal Register 63(92):26517-26530.
- (USFWS) U.S. Fish and Wildlife Service. 2014. The Preble's Meadow Jumping Mouse 5-year Review. 15 pp.
- (USFWS) U.S. Fish and Wildlife Service. 2018. IPaC – Information Planning and Conservation System. Available online at: <http://ecos.fws.gov/ipac/>. (Accessed April 2021)
- (USFWS) U.S. Fish and Wildlife Service. 2020. National Wetlands Inventory. Available online at: <https://www.fws.gov/wetlands/>. (Accessed April 2021).
- (USGS) U.S. Geological Survey. 2021. National Hydrography Dataset Plus High Resolution. Available online at: <https://www.usgs.gov/core-science-systems/ngp/national-hydrography/nhdplus-high-resolution>. (Accessed April 2021)

We appreciate the opportunity to support CPR's project development. If you have any questions regarding this report, please do not hesitate to contact me at greg.everett@apexcos.com or at 720-496-8766.

Sincerely,
Apex Companies, LLC



Greg Everett
Senior Scientist and Project Manager

Attachment A

Figures

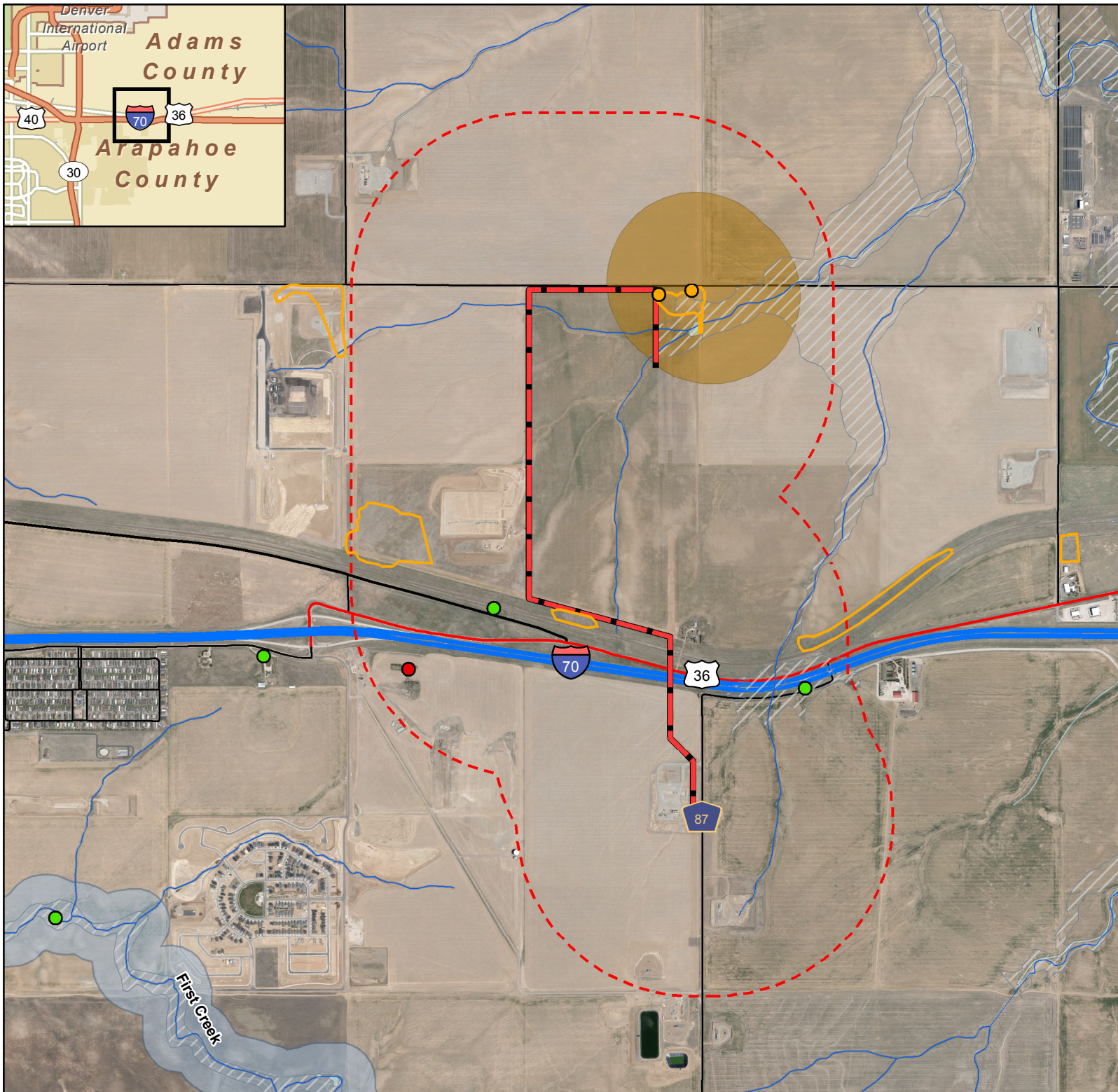
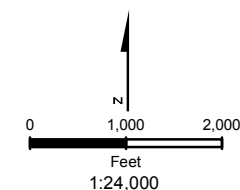


Figure 1

**Spine G Pipeline
Project Overview**

Legend

- Pipeline CL
- - - Half-Mile Survey Buffer
- Raptor Nest - Active
- Raptor Nest - Inactive or Unknown Status
- BUOW Nest
- Potential BUOW Habitat
- CPW-recommended Active BUOW Nest Buffer (1/4 mile)
- NHD-mapped Stream/River
- NWI-mapped Wetlands
- Floodplain - 100 yr
- Aquatic Native Species Conservation Water



Inspector: AD
Inspection Date: 04/27/2021

Site Characteristics

Legal Location: Sec 34, T3S R65W, Sec 2 and 3, T4S R65W
County: Adams and Arapahoe
Land Use: Agriculture, Oil and Gas
Pre-Construction Vegetation Cover: Cropland

REVISED	BY	COMMENT
4/30/2021	LMH	Natural Resources Map

APEX *Feature symbols not to scale*

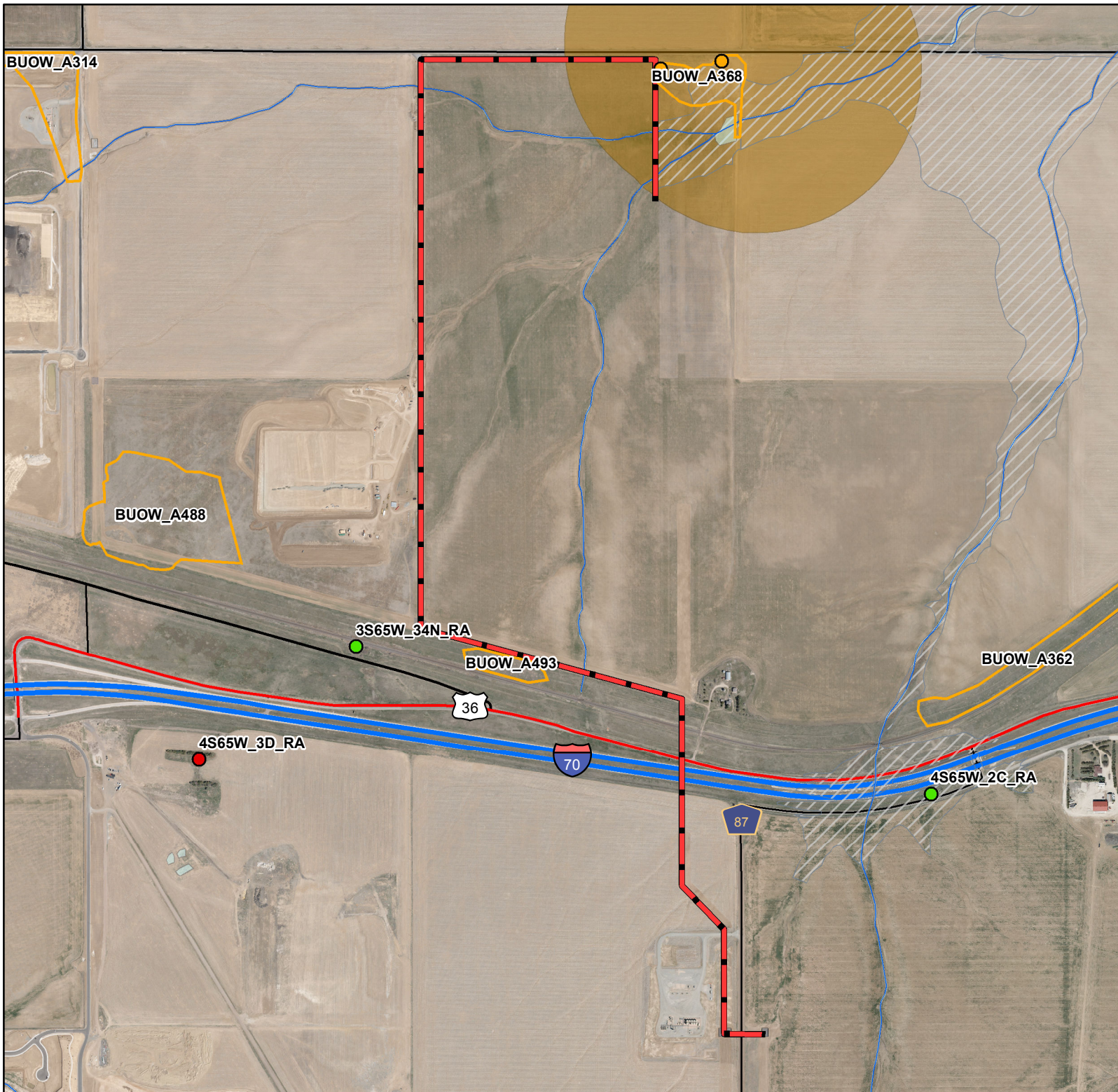
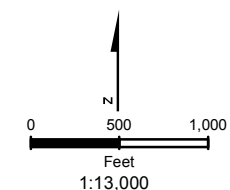


Figure 2

**Spine G Pipeline
Natural Resource Features**

Legend

- Pipeline CL
- Raptor Nest - Active
- Raptor Nest - Inactive or Unknown Status
- BUOW Nest
- Potential BUOW Habitat
- CPW-recommended Active BUOW Nest Buffer (1/4 mile)
- NHD-mapped Stream/River
- NWI-mapped Wetlands
- Floodplain - 100 yr



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Feature symbols not to scale

Attachment B
Site Photographs



Photo 1. Looking south towards northeastern pipeline terminus.



Photo 2. Looking north along route from northeastern terminus of pipeline.



Photo 3. Looking southwest along mapped intermittent stream intersecting the northeastern section of pipeline.



Photo 4. Looking northeast along mapped intermittent stream intersecting the northeastern section of pipeline.



Photo 5. Looking west along mapped intermittent stream intersecting the northeastern section of pipeline.



Photo 6. Looking east along mapped intermittent stream intersecting the northeastern section of pipeline.



Photo 7. Looking south towards northeastern terminus of pipeline. Burrow on far left (east) side of photo is one location where pair of burrowing owls was observed.



Photo 8. Looking west along northern section of pipeline route.



Photo 9. Looking south along route along existing CPR access road.



Photo 10. Looking south along route where existing stormwater control measures from existing CPR pad and access road intersect with pipeline route.



Photo 11. Looking northeast along existing stormwater control measures that intersect the route.



Photo 12. Looking northeast along existing stormwater control measures where mapped intermittent stream intersects the northwestern section of the route.



Photo 13. Looking southwest along existing stormwater control measures where mapped intermittent stream intersects the northwestern section of the route.



Photo 14. Looking north along route towards northwestern corner of the pipeline.



Photo 15. Looking south along mapped intermittent stream that intersects southern section of pipeline route north of Interstate 70.



Photo 16. Looking west along pipeline route from eastern section north of Interstate 70.



Photo 17. Facing northwest along southern half of route south of Interstate 70.



Photo 18. Facing south towards southern terminus intersecting with existing CPR pad access road and stormwater control measures.



Photo 19. Looking east at southern terminus.



Photo 20. Looking north along pipeline route from southern terminus