



March 31, 2017

Peter Martz

Arroya Investments, LLC
P.O. Box 50223
Colorado Springs, CO 80949
CORE Consultants Project Number 16-059

**Re: Impact Identification Report
The Retreat at Timber Ridge Residential Development Project
El Paso County, Colorado**

Dear Mr. Martz:

CORE Consultants, Inc. (CORE) presents this memo summarizing an impact identification report of the proposed The Retreat at Timber Ridge Residential Development Project (Project) in El Paso County, Colorado. The memo tiers to the requirements set-forth in the Wildlife Impact Identification Report Checklist created by El Paso County. The report is required as part of a County submittal application for a Planned Unit Development (PUD). The Project is located adjacent to and surrounding the intersection of Vollmer Road and Arroya Lane and is on the U.S. Geological Survey (USGS) Falcon North West 7.5-minute quadrangle, on portions of Sections 21, 22, 27, and 28 in Township 12 South, Range 65 West (**Attachment I: Site Location Map**). The Project would consist of the construction of single family residential homes, permanent access roads, open spaces and trails, and associated facilities.

CORE completed a desktop review and subsequent site reconnaissance of the Project for the following natural resources and potential biological constraints:

- Significant topographic features;
- Potentially jurisdictional water features and floodplains;
- Potential for occurrence of federally-listed threatened and endangered species (TES) and their associated habitats;
- Federally-designated Critical Habitat for TES; and
- Potential for occurrence of state threatened (ST), state endangered (SE), state species of concern (SC), and their associated habitats, and big game migratory routes and species specific concentration areas.
- Potential geologic hazards
- Potential wildfire hazards

Publicly-available data sources reviewed via desktop included the U.S. Fish and Wildlife Service's (USFWS) Information Planning and Conservation (IPaC) System, the USFWS Critical Habitat Portal, species profiles and spatial data from Colorado Parks and Wildlife (CPW), the USFWS National Wetland Inventory (NWI), the U.S. Geological Survey (USGS) National Hydrography Dataset (NHD), Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), USGS aerial imagery, El Paso County Wildfire Hazard Map, and El

Paso County Soil Survey data (NRCS 1981). A site reconnaissance was conducted on December 15, 2016 to field-verify results of the desktop review.

ENVIRONMENTAL SETTING

The Project lies within the Fountain watershed, referenced as 8-digit Hydrologic Unit Code (HUC) 11020003. Topography of the Project consists of rolling foothill grasslands within the southern portion of the Project transitioning into pine-oak woodlands within the northern portion of the Project (Chapman et al. 2006). Scattered, shallow ridges and dense stands of ponderosa pine (*Pinus ponderosa*) are located across the northern portion of the Project and coincide with the southern boundary of Black Forest. Sand Creek and multiple unnamed tributaries drain the Project in a southerly direction; the confluence of two unnamed tributaries converge at the main channel of Sand Creek within the northern portion of the Project. Project elevations range between approximately 7,150 and 7,400 feet above mean sea level (AMSL). Land use in the region is typified by rangeland grazing with increasing urban and residential development.

Dominant species within the foothills grasslands include little bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardii*), switch grass (*Panicum virgatum*), and yellow Indiangrass (*Sorghastrum nutans*). Scattered pine-oak communities are located across higher elevation areas of the foothills grasslands. Ponderosa pine and Gambel oak (*Quercus gambelii*) dominate the canopy and understory of the pine-oak woodlands. Mountain mahogany (*Cercocarpus montanus*), skunkbush (*Rhus trilobata*), western serviceberry (*Amelanchier alnifolia*), and chokecherry (*Prunus virginiana*) are also found scattered throughout the understory.

Wetlands and Waters of the U.S.

The USFWS NWI and USGS NHD datasets were reviewed for the presence of potentially jurisdictional Waters of the U.S. (WOUS) within the Project. Aerial imagery was reviewed to locate water features not included within the NWI and NHD datasets. Spatial data indicates that the main channel of Sand Creek and unnamed tributaries drain the Project in a southerly direction (**Attachment II: National Wetland Inventory Map**). NWI maps depict two palustrine, unconsolidated bottom, semipermanently flooded wetlands (PUBF) within the Project (**Attachment II**). NHD datasets depict three NHD waterbodies characterized as lakes/ponds, two of which coincide with the NWI identified wetlands (**Attachment II**). Aerial imagery interpretation indicates that the main channel of Sand Creek is perennial throughout much of its stretch within the Project; erosion and incision of the main channel is apparent throughout the southern portion of the main channel. Aerial interpretation of the northern portion of the Project indicates channelization of the unnamed tributaries and main channel of Sand Creek, and that extensive emergent wetlands are likely present within and adjacent to the channels. A site reconnaissance and a routine wetland delineation were deemed necessary to confirm desktop findings.

FEMA Zone-A Floodplains

The Project is located within the boundaries of FEMA FIRM panel 08041 C0535F El Paso County (FEMA 1997). Zone-A floodplains are mapped within and adjacent to the main channel of Sand Creek, south of Arroya Lane (**Attachment III: FEMA FIRM Panel**). Zone-A floodplains (also referred to as 100-year floodplains) are defined as those areas subject to an annual 1% chance of flooding.

These should be preserved in a tract. Please provide documentation (Clearance Letter from Army Core of Engineers).

Federal TES

The USFWS IPaC database (USFWS 2017a) was used to determine the likelihood of occurrence for federally listed TES within the Project. The IPaC query listed four species, including one bird, one flowering plant, one mammal, and one fish, as having the potential to occur within the Project. An additional five species were listed

to be considered under a conditional effects analysis; i.e., an additional five species would be considered if the Project would affect water within the South Platte River watershed (**Table 1**).

Table 1. TES LIKELIHOOD OF OCCURRENCE WITHIN THE PROJECT (USFWS 2017a)

COMMON NAME	SCIENTIFIC NAME	STATUS	LIKELIHOOD OF OCCURENCE
Complete Effects Analysis			
Greenback cutthroat trout	<i>Oncorhynchus clarkii stomias</i>	FT	Unlikely: historically occupied steep, cold, high mountain streams and rivers in the South Platte and Arkansas River watersheds (Young 2009). A single, genetically pure population remains in Bear Creek, El Paso County (Martin et al. 2015).
Mexican spotted owl	<i>Strix occidentalis lucida</i>	FT	Unlikely: requires mixed-conifer stands and narrow canyons (Gutiérrez et al. 1995). Designated critical habitat is > 10 miles from Project; lack of habitat connectivity.
Preble’s meadow jumping mouse	<i>Zapus hudsonius preblei</i>	FT, ST	Low potential: see discussion below.
Ute ladies’-tresses	<i>Spiranthes diluvialis</i>	FT	Unlikely: see discussion below
Conditional Effects Analysis			
Least tern	<i>Sternula antillarum</i> (interior population)	FE	Project is located outside of species’ range; Project would not affect water within the S. Platte River watershed. Therefore, impacts to this species would not occur.
Pallid sturgeon	<i>Scaphirynchus albus</i> (entire population)	FE	Project is located outside of species’ range; Project would not affect water within the S. Platte River watershed. Therefore, impacts to this species would not occur.
Piping plover	<i>Charadrius melodus</i> (except Great Lakes watershed)	FT	Project is located outside of species’ range; Project would not affect water within the S. Platte River watershed. Therefore, impacts to this species would not occur.
Western prairie fringed orchid	<i>Platanthera praeclara</i>	FT	Project is located outside of species’ range; Project would not affect water within the S. Platte River watershed. Therefore, impacts to this species would not occur.
Whooping crane	<i>Grus americana</i>	FE	Project is located outside of species’ range; Project would not affect water within the S. Platte River watershed. Therefore, impacts to this species would not occur.

FE=Federally Endangered; FT=Federally Threatened; ST=State Threatened

Preble’s Meadow Jumping Mouse

Preble’s meadow jumping mouse (*Zapus hudsonius preblei*; PMJM) is a federally threatened species and is a state threatened species in Colorado. PMJM occur along the Front Range of the Rocky Mountains throughout several counties in Wyoming and Colorado. Preferred habitat includes well developed riparian corridors with gentle slopes and adjacent grasslands that allow for movement in and out of the stream channel. Their population has declined due to habitat fragmentation and degradation resulting from urban development in

riparian areas (USFWS 2004). Critical habitat was designated for PMJM across its range in 2003 (68 FR 37275). USFWS designated critical habitat zones are those areas that scientifically and biologically support reproduction, foraging, hibernation, rearing young, and dispersal. CPW designated PMJM occupied ranges are those areas within one mile of CPW known occurrences (CPW 2014). The closest USFWS critical habitat and CPW occupied range is located approximately six and four miles, respectively, northwest along the Black Squirrel Creek drainage.

The USFWS has determined block clearance zones as those areas where PMJM is unlikely to occur as a result of habitat fragmentation or consistently negative trapping results. The majority of the Project is located within the USFWS PMJM Block Clearance Zone for the Colorado Springs Area (USFWS 2010). The northern portion of the Project is not included within the Colorado Springs block clearance zone; however, Sand Creek and its unnamed tributaries are intermittent at this location. A site reconnaissance was deemed necessary to more accurately assess the potential for the presence of PMJM habitat within the Project.

Ute Ladies'-tresses Orchid

Ute ladies'-tresses orchid (ULTO) is a perennial orchid listed as federally threatened. This forb has ivory flower clusters arranged in a spike growing approximately 8-20 inches tall. ULTO is known to occur in parts of Colorado, Wyoming, Idaho, Montana, Nebraska, Utah, and Washington. The plant typically occurs within features associated with major river floodplains including riparian edges, gravel bars, old oxbows, high flow channels, and moist to wet meadows associated with perennial streams; it is found under 6,500 feet AMSL in Colorado (USFWS 2014). Surveys have indicated that the species may also inhabit groundwater-fed springs or sub-irrigated meadows, seeps, and human-influenced riparian habitats that receive reliable and stable spring inundation (Fertig et al. 2005; NRCS 2009). Soils in areas of suitable habitat have a high micronutrient and organic matter content and display gley features when sampled (NRCS 2009).

A review of spatial data and aerial imagery indicates that the Project is not located at elevations appropriate to sustain ULTO within Colorado. It is not anticipated that Project development would impact ULTO or its associated habitat.

Migratory Birds

The USFWS IPaC database (USFWS 2017a) was used to determine the potential for occurrence of migratory birds within the Project that are protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. §§ 703–712). The IPaC query listed 24 migratory bird species, including 16 potential breeding species, seven potential year-round resident species, and one potential wintering species. Breeding migratory birds, and the parts, nests, or eggs of such a bird receive statutory protection under the MBTA, and disturbing such species (defined at 16 U.S.C. §§ 703–712) is prohibited.

CPW Species Activity Mapping: El Paso County

The CPW SAM spatial data were reviewed to determine the potential for the occurrence of general wildlife, including big game species. The review indicated that there is potential for the occurrence of five mammals and 13 reptiles (Table 2).

Table 2. General Wildlife Potential for Occurrence (CPW 2017)

COMMON NAME	SCIENTIFIC NAME	TYPE OF OCCURENCE (CPW 2017)
Mammals		
Abert's squirrel	<i>Sciurus aberti</i>	Overall range (north of Wildflower Road)
Black bear	<i>Ursus americanus</i>	Fall concentration area
Mountain lion	<i>Puma concolor</i>	Peripheral range
Mule deer	<i>Odocoileus hemionus</i>	Overall range
Pronghorn antelope	<i>Antilocapra americana</i>	Overall range (south of Wildflower Road)
Reptiles		
Bullsnake	<i>Pituophis catenifer sayi</i>	Overall range
Common lesser earless lizard	<i>Holbrookia maculata</i>	Overall range
Hernandez's short-horned lizard	<i>Phrynosoma hernandesi hernandesi</i>	Overall range
Many-lined skink	<i>Plestiodon multivirgatus</i>	Overall range
Milk snake	<i>Lampropeltis triangulum</i>	Overall range
Ornate box turtle	<i>Terrapene ornata ornata</i>	Overall range
Painted turtle	<i>Chrysemys picta</i>	Overall range
Plains garter snake	<i>Thamnophis radix</i>	Overall range
Prairie lizard	<i>Scleropus undulatus</i>	Overall range
Prairie rattlesnake	<i>Crotalus viridis</i>	Overall range
Six-lined racerunner	<i>Aspidoscelis sexlineata</i>	Overall range
Smooth green snake	<i>Opheodrys vernalis</i>	Overall range
Terrestrial garter snake	<i>Thamnophis elegans</i>	Overall range

General wildlife do not receive statutory protection, and the Project area does not intersect with big game migratory routes. The closest migratory route is utilized by elk (*Cervus canadensis*) and is located approximately 11 miles north of the Project. The Project does intersect with a seasonal fall concentration area for black bears (*Ursus americanus*), as well as the peripheral range for mountain lion (*Puma concolor*) in the northern, small forested portions of the Project. Development of residential property has the potential to attract black bear, since trash would be readily available for forage. A site reconnaissance would determine the potential for occurrence of specific general wildlife species.

Geologic Hazards Review

The El Paso County Soil Survey data were reviewed to determine the potential for the presence of geologic hazards within the Project. The NRCS provides information on soils properties that would influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Quantitative 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 2017). County soil survey data indicate that the Project is composed of Columbine gravelly sandy loams (0 to 3 percent slopes), Kettle gravelly loamy sand (3 to 8 percent slopes and 8 to 40 percent slopes), and Pring coarse sandy loams (3 to 8 percent slopes) (NRCS 2017) (**Attachment IV: County Soil Survey Map**). The review of data indicated that the Project soils are rated 'Not limited' for the construction of dwellings with or without basements, with the exception of Kettle gravelly sandy loams (8 to 40 percent slopes). This soil series comprises a small, forested area of the northwestern corner of the Project, west of Vollmer Road (**Attachment IV**). The current Project concept does not include lots west of Vollmer Road.

Wildfire Hazards Review

El Paso County *Wildfire Hazards Based on CVCP Indicators Map* was reviewed to determine the potential wildfire hazard levels within the Project. The County assigns a rating of 'High Hazard' or 'No Hazard' based on type of vegetation cover. Forested areas are considered 'High Hazard' and grass/shrub areas are considered "Low Hazard". A review of the map indicated that the majority of the Project is considered 'Low Hazard' for wildfire threat (El Paso County 2007). A 'High Hazard' and "Low Hazard" rating is interspersed across the northern portion of the Project since this area represents the transition zone between the foothill-grasslands and the pine-oak woodlands (El Paso County 2007).

SITE RECONNAISSANCE

A site reconnaissance of the Project was conducted on December 15, 2016. The site visit confirmed the majority of the initial results of the desktop review.

Vegetation

Dominant vegetation consisted of plants typical of the foothill grasslands and pine-oak woodlands; vegetation was relatively undisturbed. Native species observed included blue grama (*Bouteloua gracilis*), needle-and-thread (*Hesperotipa comata*), yellow Indiagrass, fringed sage (*Artemisia frigida*), blackbent (*Agrostis gigantea*), and buckwheats (*Polygonum* spp.). Shrubby and tree species observed included peach leaf willow (*Salix amygdaloides*), coyote willow (*Salix exigua*), narrowleaf cottonwood (*Populus angustifolia*), and ponderosa pine. Noxious weed species observed included common mullein (*Verbascum thapsus*), and diffuse knapweed (*Centaurea diffusa*). El Paso County requires that noxious weed populations be treated prior to construction on projects requiring ground disturbance (El Paso County 2014).

PMJM

The site reconnaissance confirmed the initial results of the desktop review regarding the low potential for the presence of PMJM within or in the vicinity of the Project. Sand Creek presented as a steeply incised and eroded channel throughout the majority of the southern portion of the Project. Short stretches of the southernmost portion of the channel are widely eroded such that some disperse, riparian vegetation has established within the banks adjacent to the channel within the area of incision. Short stretches of Sand Creek north and south of Arroya Lane presented as a perennial stream with gently sloping banks and well developed riparian canopy coverage. However, these stretches are located within the USFWS PMJM block clearance zone for the Colorado Springs area (USFWS 2010), with the exception of a short stretch (approximately 600 linear feet) of channel immediately north of the Colorado Springs block clearance zone. A narrowly defined perennial channel was present at this location that developed as a result of the outlet of the southwest corner of the large pond located in the northern portion of the Project, north of Arroya Lane. The perennial channel was situated adjacent to well established native uplands and a well-developed riparian corridor with gently

sloping banks along an unnamed tributary of Sand Creek (**Attachment V: Habitat Assessment Map**). Since the channel provides a perennial water source and there were well-developed riparian corridors, moist meadows, and native upland grasses in the near vicinity, this small portion of the Project may constitute potentially suitable habitat for PMJM.

Although some potentially suitable habitat is present, it is CORE's opinion that the Project would not impact PMJM or its associated habitat. Sand Creek and its unnamed tributaries are not included in designated Critical Habitat for PMJM, nor in CPW's PMJM occupied range (USFWS 2017b, CPW 2014). Further, portions of the main channel of Sand Creek that presented as characteristically suitable PMJM habitat adjacent to Arroya Lane are minimal and are located within the USFWS PMJM block clearance zone for the Colorado Springs Area (USFWS 2010). Nonetheless, presence or absence of PMJM can only be determined through trapping surveys. As such, the Applicant has elected to defer to the County to submit a request for concurrence from the USFWS that the Project is Not Likely to Adversely Affect the federally threatened PMJM.

Migratory Birds

Suitable substrates for nesting raptors were present in the form of mature narrowleaf cottonwoods and ponderosa pines, widely distributed adjacent to and within the Sand Creek channel and across the northern portion of the Project. Raptor nests were observed within the southern portion of the Project along Sand Creek (**Attachment V**). There is potential for additional raptor nests to be built during the breeding season (February 1 through July 15) Project.

CPW Species Activity Mapping

The site reconnaissance determined a high probability for several general wildlife species identified during the desktop review of CPW SAM data (CPW 2017). Abert's squirrel, black bear, and mountain lion have some potential to occur within the forested areas in the northern portion of the Project. Development of the Project has the potential to attract black bears, since trash would be readily available for forage. Mule deer have the potential to occur within the forested areas in the northern portion of the Project. There is potential for pronghorn to occur within the southern portion of the Project; however, development has greatly fragmented suitable habitat in the Project vicinity. As such, development may create a barrier through which pronghorn cannot disperse from habitat further east of the Project. The Project provides suitable habitat for general reptile species identified during the desktop review of CPW SAM data. There is the potential for occurrence of other general wildlife including avian and amphibian species. CPW SAM data does not include amphibians (CPW 2017).

WOUS

The site reconnaissance determined a high likelihood for the presence of potentially-jurisdictional WOUS, including wetlands, within the Project. The site reconnaissance confirmed the presence of a defined bed and bank along the entire stretch of Sand Creek and select tributaries within the Project (**Attachment VI: Maximum Extent of Wetlands Map**). Portions of Sand Creek exhibited characteristics of a perennial stream with fringe wetlands, while other portions exhibited characteristics of an intermittent stream channel (**Attachment VII: Photographic Log**). The extent of in-channel wetlands varied along Sand Creek within the Project. Wetland vegetation narrowly edged the perennial stretches of stream channel where channel incision was greatest. The stretch of Sand Creek immediately south of Arroya was characterized by a broader, more gently sloping channel and more extensive abutting and in channel wetland complexes (**Attachment VII**). Sand Creek tributaries south of Arroya Lane presented as intermittent stream channels containing wetlands and some sandy washes characterized as jurisdictional channels.

Sand Creek and its tributaries north of Arroya Lane presented as perennial stream channels containing

wetlands, intermittent stream channels containing wetlands, and abutting wetlands. The large stock pond in the northern portion of the site has altered the hydrology of the drainage; outflow at the southwestern corner of the pond has created a narrowly defined perennial channel containing wetlands with adjacent wet meadows. CORE delineated the maximum extent of WOUS within the Project. The top of bank was delineated where wetlands were observed within the channel, and maximum extent of abutting wetlands were included when observed outside of the top of bank. CORE will conduct a formal wetland delineation during the growing season.

CULTURAL RESOURCES

CORE contracted Cultural Resource Analysts, Inc. (CRA) to conduct a desktop records review and assessment of cultural resources within and a one mile buffer of the Project (**Attachment VIII: Class I Cultural Resources Review**). An official file search was conducted using the records housed with the Colorado Historical Society's Office of Archaeology and Historic Preservation (OAHP). The file search listed one previous investigation near the Project that occurred in 2002; this review indicated that no cultural resource sites have been previously identified within or near the current project area. No Class III pedestrian surveys have been conducted within or adjacent to the Project; a future survey could be required by the USACE as part of the Section 404 permitting process.

CONCLUSIONS

The site reconnaissance indicated some biological constraints within the Project. There is potential for the presence of potentially suitable, albeit minimal, PMJM habitat within the northern portion of the Project. Since this short stretch of the Sand creek drainage would be preserved for open space, it is unlikely that Project development would impact PMJM or its habitat. As such, the Applicant will defer to the County to submit a request for concurrence from the USFWS that the Project is Not Likely to Adversely Affect the federally threatened PMJM. Residential development has the potential to attract black bears. Appropriately containing trash would mitigate this potential constraint. Suitable nesting raptor substrates were present within the Project in the form of mature cottonwoods and pine trees widely distributed along the Sand Creek drainage, and dense stands of mature pine trees across the northern portion of the Project. The IPaC query determined the potential for the presence of multiple migratory breeding bird species within the Project. Nesting raptors and nesting migratory avian species are protected under the MBTA (16 U.S.C. §§ 703–712). WOUS are likely present within and adjacent to Sand Creek and its unnamed tributaries within the Project. Impacts to jurisdictional waters would trigger permitting under Section 404 of the Clean Water Act (CWA). The records review and assessment of cultural resources did not indicate the presence of cultural resource sites within the Project. There is potential that the USACE, through consultation with the OAHP, could require a Class III pedestrian survey for cultural resources within the Project. Noxious weed populations were detected during the survey. Coordination with El Paso County would determine required and appropriate noxious weed treatment for the Project site prior to construction.



If you have any questions, concerns or require additional information, please feel free to contact me at 303.703.4444 or by email at brazil@corecivil.com.

Sincerely,
CORE Consultants, Inc.

A handwritten signature in blue ink that reads 'Tina Brazil'.

Tina Brazil
Environmental Consultant

LIST OF ATTACHMENTS

ATTACHMENT I:	<i>SITE LOCATION MAP</i>
ATTACHMENT II:	<i>NATIONAL WETLAND INVENTORY MAP</i>
ATTACHMENT III:	<i>FEMA FIRM PANEL</i>
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ATTACHMENT VII:	<i>PHOTOGRAPHIC LOG</i>
ATTACHMENT VIII:	<i>CLASS I CULTURAL RESOURCES REVIEW</i>

REFERENCES

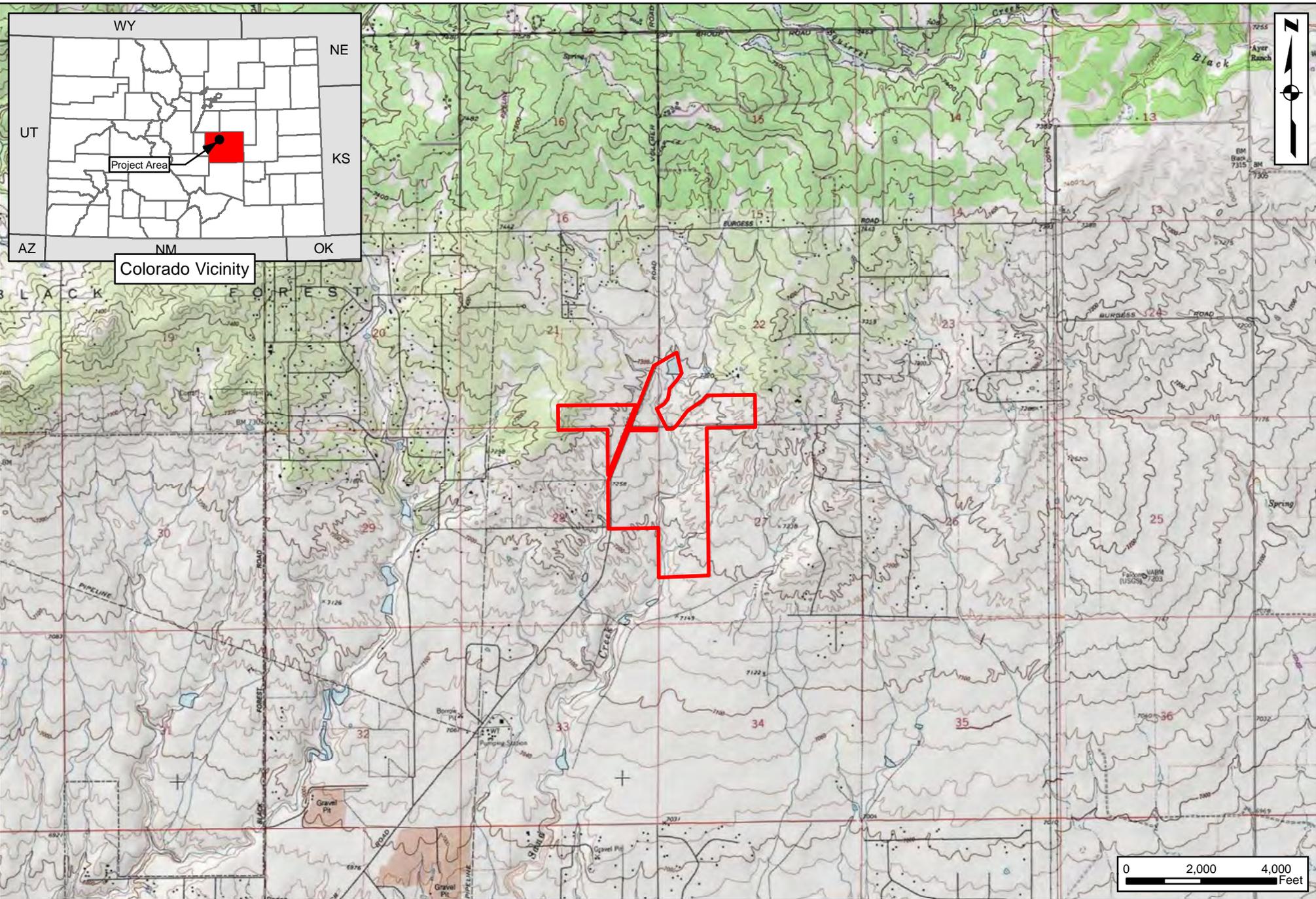
- Chapman, S.S., G.E. Griffith, J.M. Omernik, A.B. Price, J. Freeouf, and D.L. Schrupp. 2006. Ecoregions of Colorado (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,950,000).
- _____. 2017. Colorado Parks and Wildlife (CPW). CPW Species Activity Mapping Data. Updated February 2017. Available for download at:
<https://www.arcgis.com/home/item.html?id=190573c5aba643a0bc058e6f7f0510b7>
- _____. 2014. CPW PMJM Occupied Range. Spatial Data. Available for download at
<http://www.arcgis.com/home/item.html?id=dac6d46d709945f3ad8d03afd70b58b1>.
- El Paso County. Noxious Weed Management Plan. 2014. Available online at
<http://adm.elpasoco.com/Environmental%20Division/Forestry%20and%20Noxious%20Weeds/Documents/14-097.pdf>
- _____. 2007. Wildfire Hazards Based on CVCP Indicators. Available online at
<http://adm.elpasoco.com/Development%20Services/Documents/All%20Maps/FireHazards.pdf>
- Federal Emergency Management Agency. 1997. El Paso County, Colorado FEMA Flood Insurance Rate Maps. Map 08041C0535F.
- Fertig, W., R. Black, and P. Wolken. 2005. Rangewide Status Review of Ute's Ladies'- Tresses (*Spiranthes diluvialis*). Available online at https://www.fws.gov/mountain-prairie/species/plants/uteladiestress/spdi_status%20review_fertig2005.pdf.
- Gutiérrez, R.J., A.B. Franklin and W.S. Lahaye. 1995. Spotted Owl (*Strix occidentalis*), The Birds of North America Online (A. Poole, Ed.). Cornell Lab of Ornithology, Ithaca, New York, NY, USA. Available online at <http://bna.birds.cornell.edu/bna/species/179>.
- Martin, A., J. Metcalf, C. Kennedy, and K. Rigers. 2015. Comparison Between Modern and Historical Distribution and Diversity of Cutthroat Trout in Colorado. Abstract from American Fisheries Society 145th Annual Meeting.
- Natural Resources Conservation Service (NRCS). 2017. Building Site Development: Dwellings and Small Commerical Buildings Report. Available online at:
<https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>
- _____. 2009. Ute Ladies'-Tresses (*Spiranthes diluvialis*) Plant Guide. Available online at
https://plants.usda.gov/plantguide/pdf/pg_spdi6.pdf
- _____. 1981. El Paso County Soil Survey.
- U.S. Fish and Wildlife Service. 2017a. Information for Planning and Conservation Online System. Available online at <https://ecos.fws.gov/ipac/>.

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- _____. 2017b. Critical Habitat Portal. Available online at http://ecos.fws.gov/tess_public/profile/speciesProfile?spcode=E00F. Accessed December 2016.
- _____. 2014. Species Profile for Ute ladies'-tresses (*Spiranthes diluvialis*). Available online at <https://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=Q2WA>.
- _____. 2010. Preble's Meadow Jumping Mouse Block Clearance Map for the Colorado Springs Area. Available online at https://www.fws.gov/mountain-prairie/species/mammals/preble/BLOCK_CLEARANCE/11-23-2010_USFWS_Prebles_Block_Clearance_Map_for_the_Denver_Metro_Area.pdf.
- _____. 2004. Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*) Survey Guidelines. Available online at <http://www.fws.gov/mountainprairie/species/mammals/preble/CONSULTANTS/pmjm2004guidelines.pdf>.
- Young, M.K. 2009. Greenback Cutthroat Trout (*Oncorhynchus clarkii stomias*): a technical conservation assessment. USDA Forest Service, Rocky Mountain Region. [Online.] Available at <http://www.fs.fed.us/r2/projects/scp/assessments/greenbackcutthroattrout.pdf>. Accessed January 2016.



ATTACHMENT I

SITE LOCATION MAP



 Project Boundary

Reference:
 USGS 7.5 Minute
 Topographic Quadrangle
 Falcon NW, CO Quad

Retreat at Timber Ridge

Site Location Map

El Paso County, Colorado

Date: 4/3/2017
 CORE Project #: 16-059

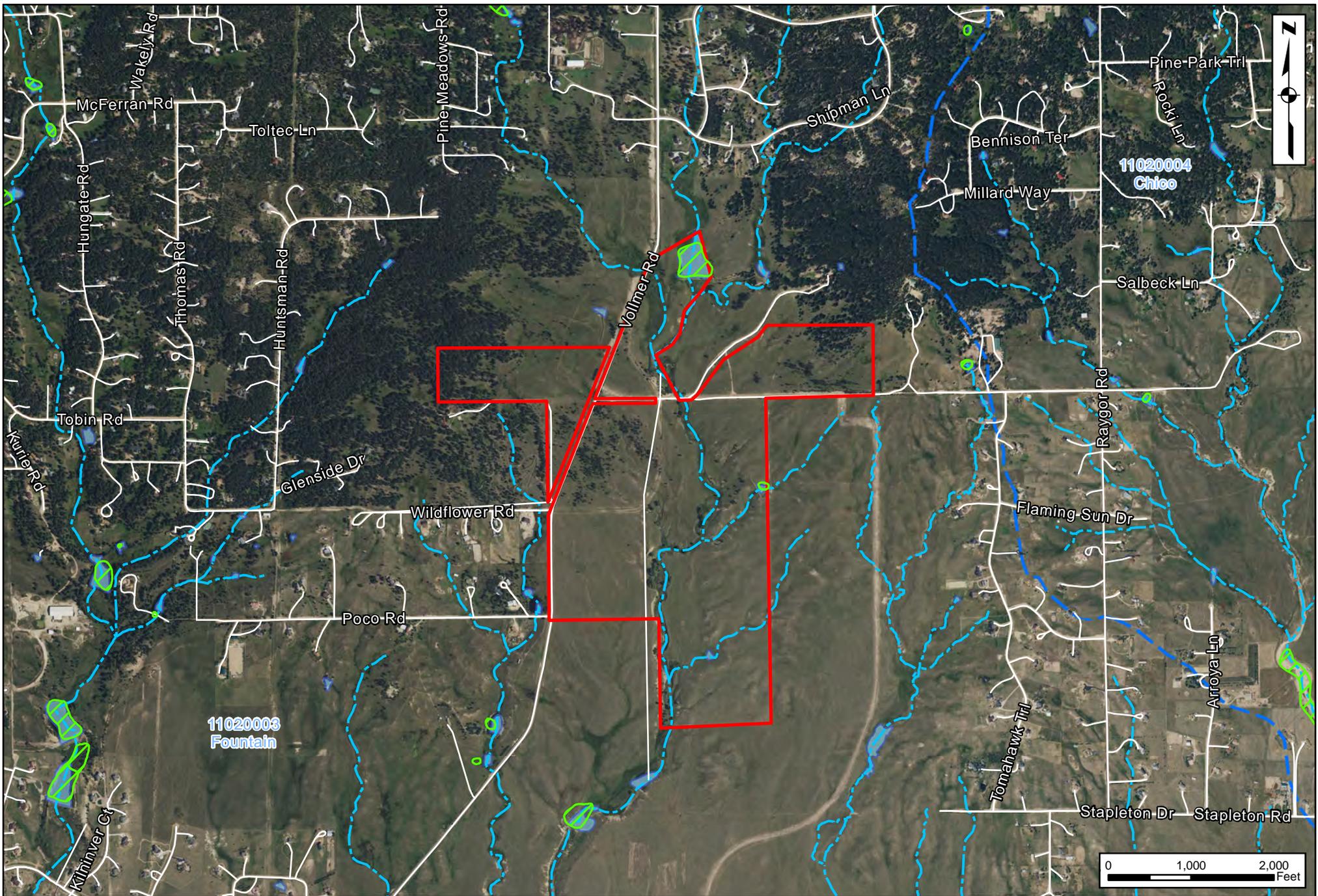


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ATTACHMENT II

NATIONAL WETLAND INVENTORY MAP



- Project Boundary
- NHD Watercourse
- NHD Waterbody
- NWI Wetland
- USGS Watershed

The Retreat at Timber Ridge
National Wetland Inventory Map
 El Paso County, Colorado

Date: 4/3/2017
 CORE Project #: 16-059

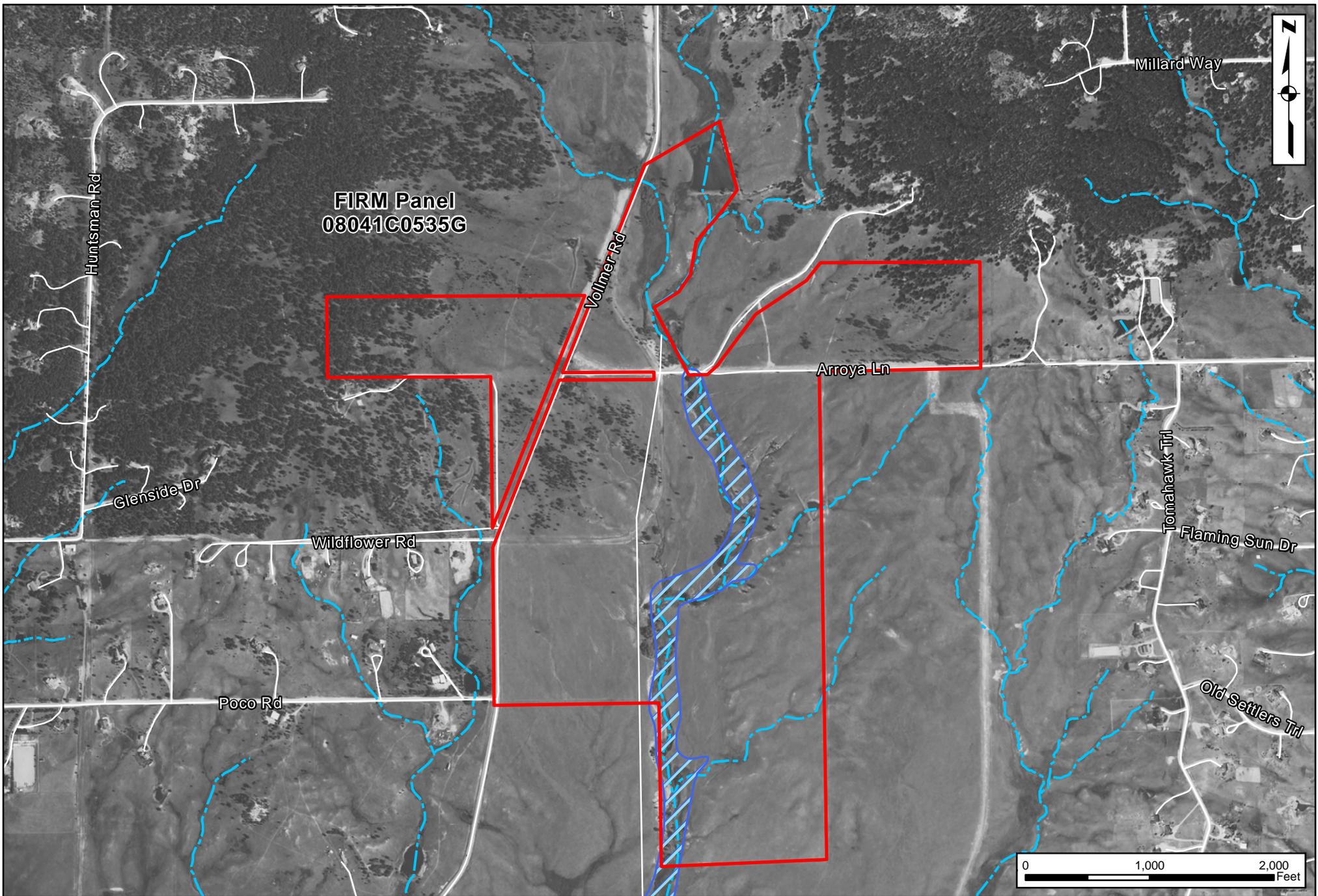


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ATTACHMENT III

FEMA FIRM PANEL



- Project Boundary
- NHD Watercourse
- Zone A: 100-year floodplain

The Retreat at Timber Ridge

FEMA FIRM Panel
El Paso County, Colorado

Date: 4/3/2017
CORE Project #: 16-059

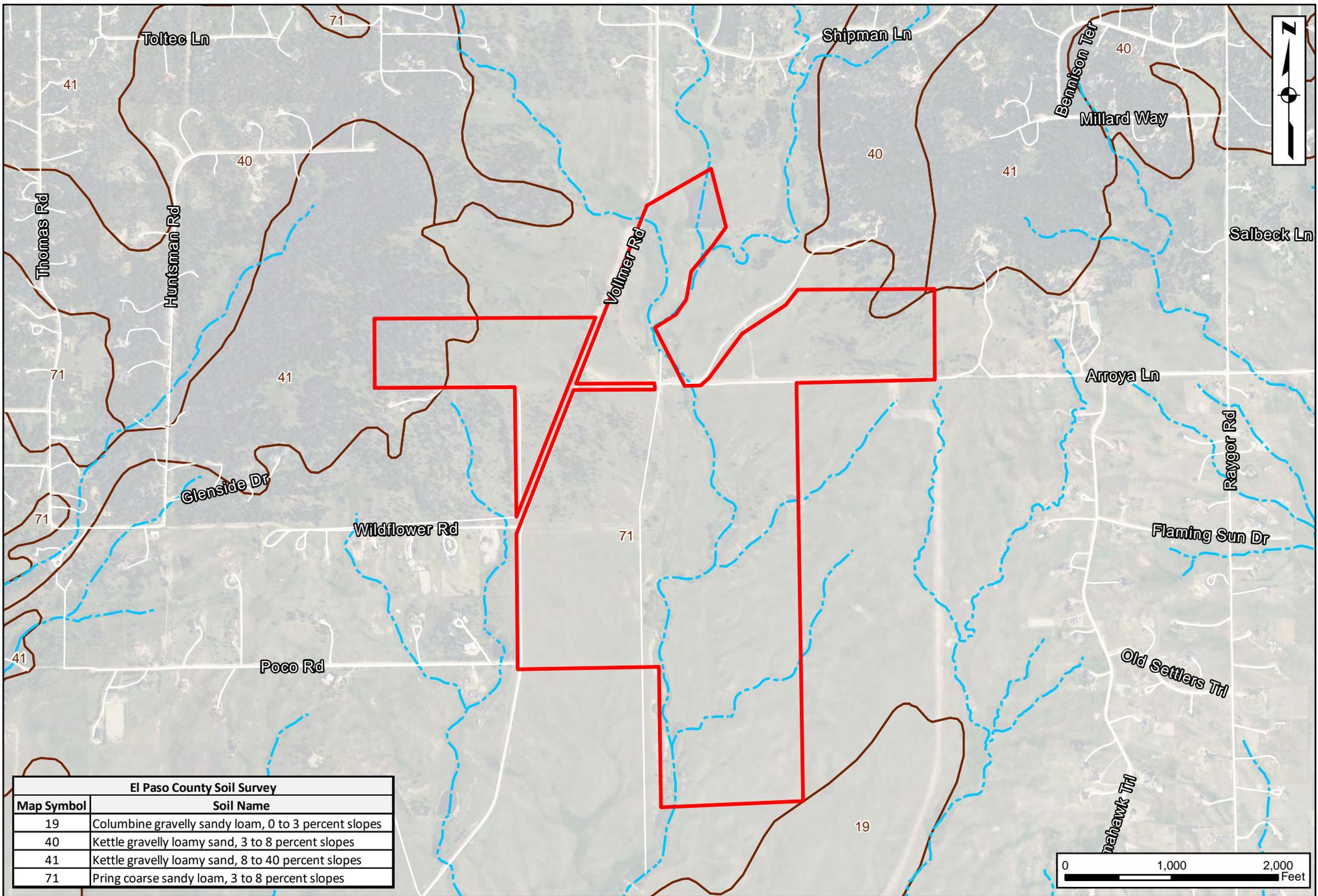


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ATTACHMENT IV

COUNTY SOIL SURVEY MAP



El Paso County Soil Survey	
Map Symbol	Soil Name
19	Columbine gravelly sandy loam, 0 to 3 percent slopes
40	Kettle gravelly loamy sand, 3 to 8 percent slopes
41	Kettle gravelly loamy sand, 8 to 40 percent slopes
71	Pring coarse sandy loam, 3 to 8 percent slopes

- Project Boundary
- NHD Watercourse
- Soil

The Retreat at Timber Ridge
County Soil Survey Map
 El Paso County, Colorado

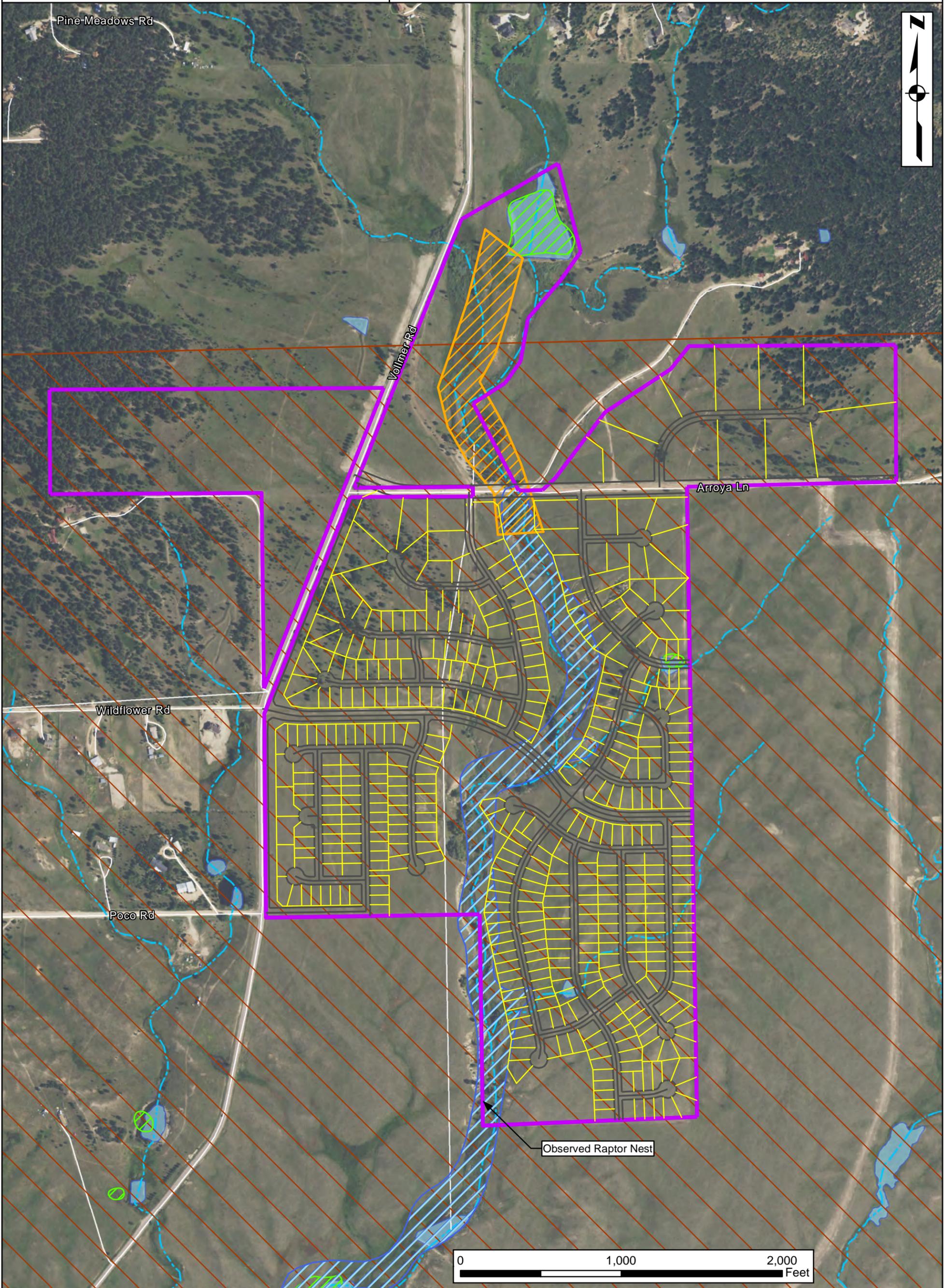
Date: 4/3/2017
 CORE Project #: 16-059

CIVIL ENGINEERING
 DEVELOPMENT CONSULTING
 LAND SURVEYING
 303.703.4444
 1950 W. Littleton Blvd., Ste. 109
 Littleton, CO 80120



ATTACHMENT V

HABITAT ASSESSMENT MAP



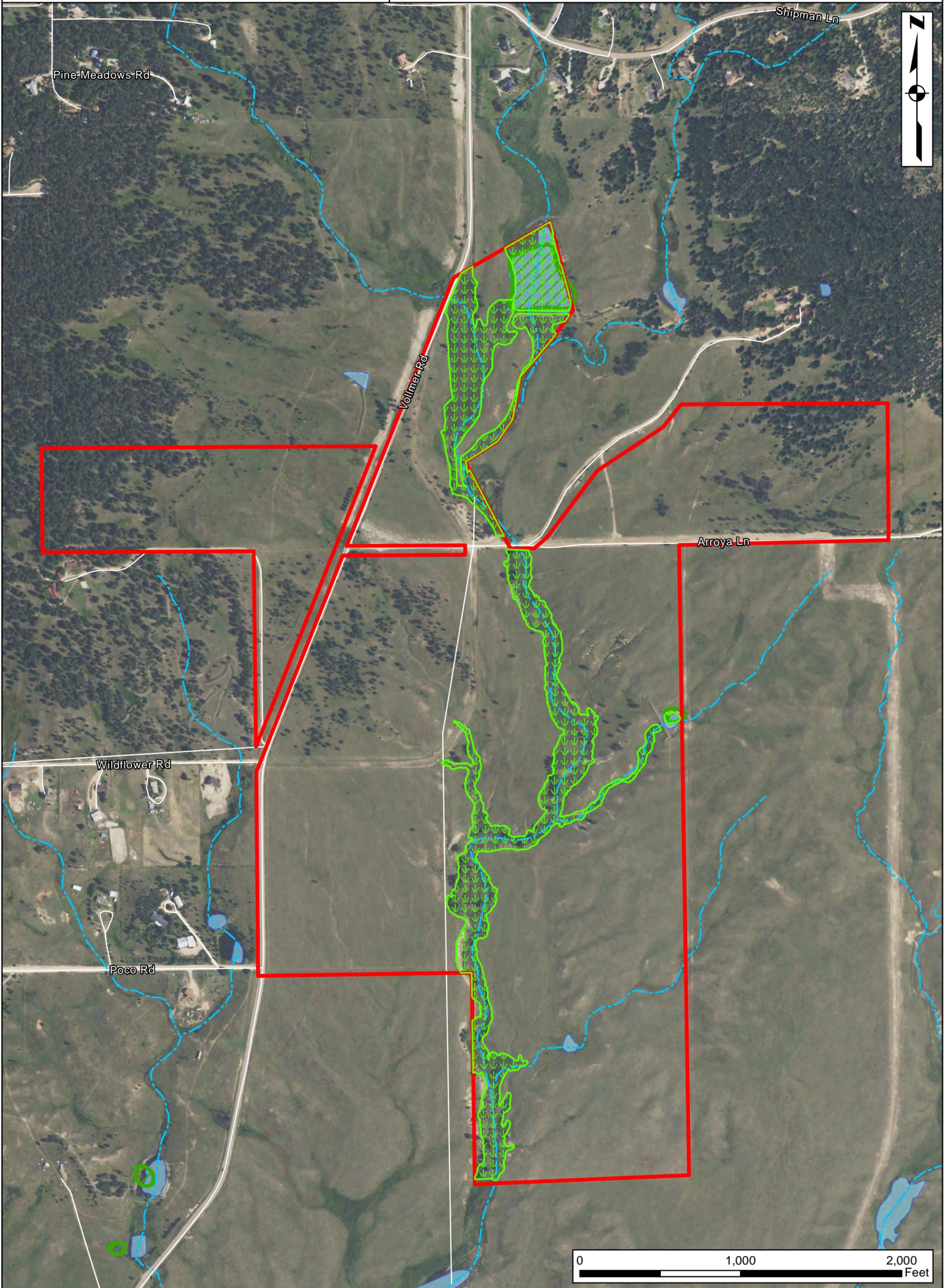
- Project Boundary
- NHD Watercourse
- Approximate Suitable PMJM Habitat
- Proposed Road
- NHD Waterbody
- Colorado Springs PMJM Block Clearance
- Proposed Lot
- NWI Wetland
- FEMA 100-year Floodplain

Observed Raptor Nest



ATTACHMENT VI

MAXIMUM EXTENT OF WETLANDS MAP



-  Project Boundary
-  NHD Watercourse
-  NHD Waterbody
-  NWI Wetland
-  Preliminary Wetland



ATTACHMENT VII

PHOTOGRAPHIC LOG



Southern portion of Project facing west, raptor nest visible to the right (north)



Steep banks within southern portion of the Project



Uplands adjacent to channel, facing west



Main channel of Sand Creek south of Arroya Lane, facing north



Well-developed riparian corridor and surface water, south of Arroya Lane facing southwest



Large stock pond in northcentral portion of Project and adjacent wet meadow on west side, facing southwest



ATTACHMENT VIII

CLASS I CULTURAL RESOURCES REVIEW

Cultural Resource Existing Data Review and Assessment for The Timber Ridge Development Project, El Paso County, Colorado

**By: Colin R. Ferriman, MA RPA
Cultural Resource Analysts, Inc.**

Project Description

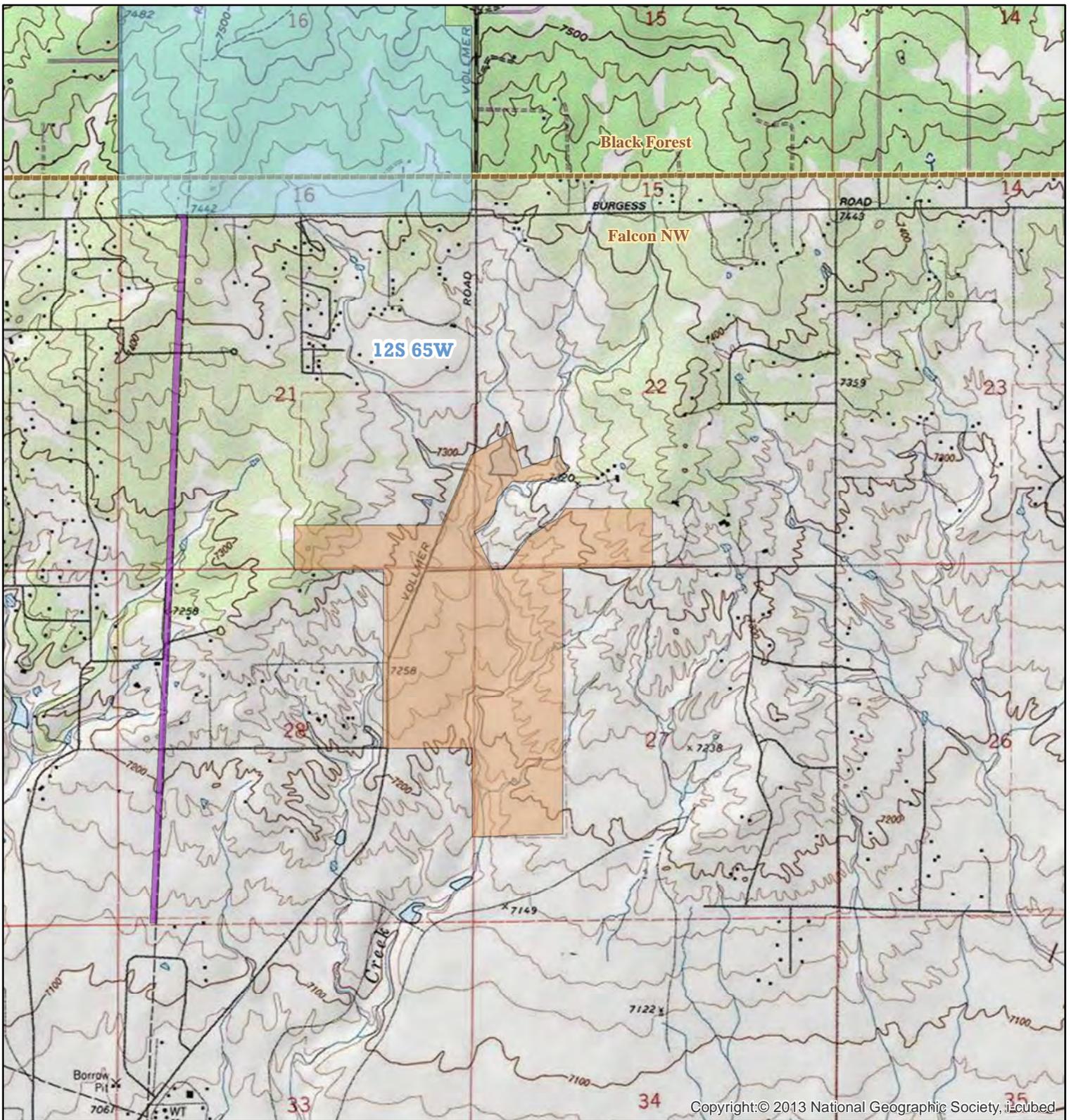
Cultural Resource Analysts, Inc. (CRA), was contracted by Core Consultants to conduct a records review for cultural resources in regards to the proposed Timber Ridge Development Project. This project area covers approximately 306 acres of private land within Sections 21, 22, 27, and 28 of Township 12S, Range 65W. It is located in El Paso County immediately northeast of Colorado Springs, Colorado (Figure 1).

For this records review the study area was defined as all areas within and around the project area out to 1 mi. The purpose of this study is to provide an assessment of known cultural resources and previous investigations within this study area.

Records Review and Assessment of Cultural Resources

An official file search was conducted using the records housed with the Colorado Historical Society's Office of Archaeology and Historic Preservation (OAHP). The file search results listed one previous investigation near the study area that occurred in 2002 (OAHP 2017). This investigation was conducted in regards to a pipeline project that traversed the western halves of Sections 21 and 28. None of the current project area has been subjected to cultural resource inventory. Furthermore, there are no previously identified cultural resource sites within or near the current project area.

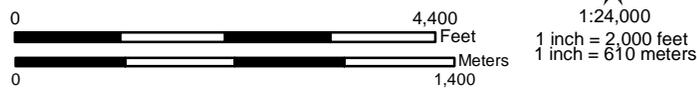
In addition to the official file search the background research for this project included the examination of the 1886 General Land Office (GLO) plat map (BLM 2017a), as well as a search of the GLO land patent records (BLM 2017b). The plat map does not depict any trails, roads, or towns within or near the project area. (Figure 2). The search of the GLO patent records was conducted to identify the origins of historic occupation in the study area and provide some indications as to the likelihood of encountering historic sites within the project area. Twenty-three patents were issued within the study area between 1870 and 1890. Seventeen of the private individual patents were issued under the 1820 Cash Sale Act. The 1820 Cash Sale Act required settlers to pay in cash at the time of land purchase, but it lowered the number of required acres to purchase from 160 to 80 and the price per acre was set at \$1.25 (Clark 2011:376). Five patents were issued to military veterans (and their heirs) under the Scrip Warrant Act of 1855. Prior to the Civil War the United States Government issued bounty land warrants as a way to encourage men to volunteer for military service and as a way to reward veterans (National Archives Record Administration 2010). These men served in militia companies that were likely associated with the numerous conflicts that occurred throughout the 1850s between the United States Government and various Native American tribes. One patent was issued under the Morrill Act (1862 State Grant Agri College). This act provided each state with 30,000 acres of Federal Land for each member of their congressional delegation. The land was then sold by the states in order to fund public colleges that focused on agriculture and mechanical arts. Many of the Nation's early public colleges were initially funded throughout this act (Library of Congress 2015).



- Study Area
- Previous Inventory
- Private
- State
- Quadrangle Boundary
- Township

Timber Ridge Development

Figure 1: Project Location Map at 1:24,000 scale





cra

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CONFIDENTIAL

Prepared By: CRF	Date: 3-28-2017
Project Number: Y17C001	Project Name: Timber Ridge Development

Coordinate System:
UTM NAD 83 Zone13N

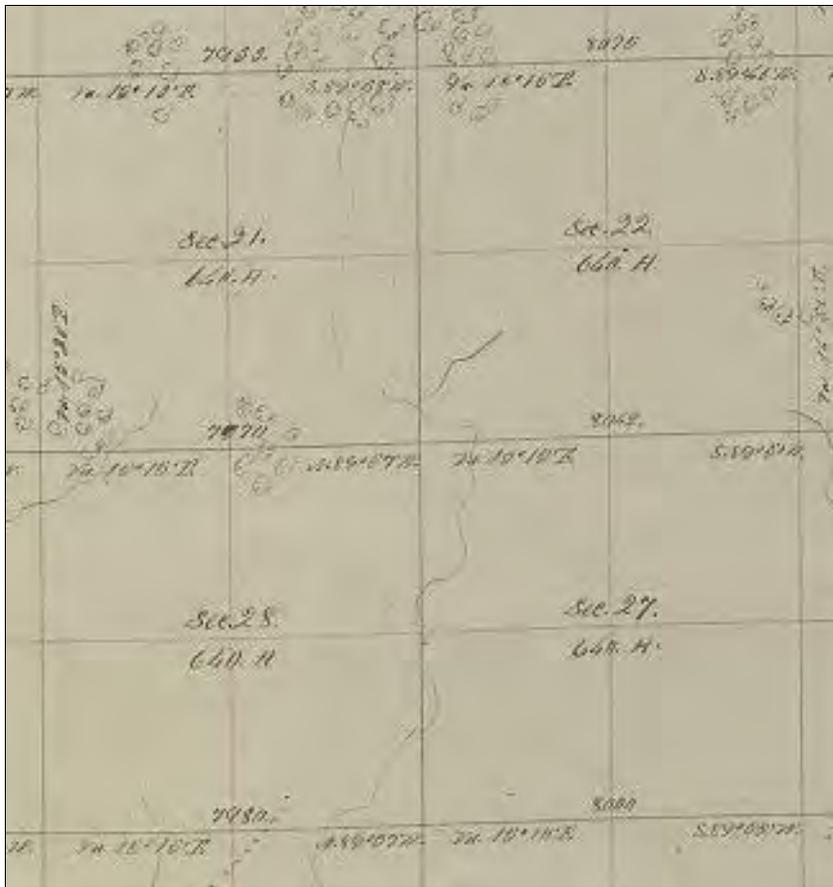


Figure 2. 1886 GLO plat map overview, T12S, R65W. Adapted from BLM 2017a.

Table 1. GLO Land Patents within and around the Study Area

Twn/Rng	Sec.	Patentee	Associated Military Unit or College	Date	Accession Number	Authority
12S/65W	21	George H. Bend Thomas J. Wood Francis H. Jackson William Van Marter Benjamin Stalvey	Captain Tornlisons Company Georgia Militia	11/15/1871	MW0441447	Scrip Warrant Act of 1855
12S/65W	21	George H. Bend Thomas J. Wood Francis H. Jackson Argalus M. Wright Patty Wright Abram Wright	Captain Babock Company New York Militia	11/15/1871	MW0441459	Scrip Warrant Act of 1855
12S/65W	21	George H. Bend Thomas J. Wood Francis H. Jackson	Not Applicable	11/10/1870	CO0220107	1820 Sale Cash Entry Act

Table 1. Continued

Twn/Rng	Sec.	Patentee	Associated Military Unit or College	Date	Accession Number	Authority
12S/65W	21	George H. Bend Thomas J. Wood Francis H. Jackson	Not Applicable	11/10/1870	CO0220115	1820 Sale Cash Entry Act
12S/65W	21	Cyrus H. McLaughlin	Not Applicable	11/10/1870	CO0220084	1820 Sale Cash Entry Act
12S/65W	22	George H. Bend Thomas J. Wood Francis H. Jackson William Van Marter Hannah Corby John J. Corby	Captain Adams Company New York Militia	11/15/1871	MW0441441	Scrip Warrant Act of 1855
12S/65W	22	George H. Bend Thomas J. Wood Francis H. Jackson Argalus M. Wright Patty Wright Abram Wright	Captain Babock Company New York Militia	11/15/1871	MW0441459	Scrip Warrant Act of 1855
12S/65W	22	Cyrus H. McLaughlin	Not Applicable	11/10/1870	CO0220084	1820 Sale Cash Entry Act
12S/65W	22	William J. Palmer	North Carolina State University	7/1/1870	AGS0319068	1862 State Grant Agri College
12S/65W	27/28	George H. Bend Thomas J. Wood Francis H. Jackson Mary V. Gilbert William H. Van Marter Sylvester Gilbert	Captain Hitchcocks Company New York Militia	11/15/1871	MW0441444	Scrip Warrant Act of 1855
12S/65W	27/28	Benjamin F. Crowell	Not Applicable	11/15/1872	CO1090167	1820 Sale Cash Entry Act
12S/65W	27	Francis B. Hill	Not Applicable	12/5/1884	CO1140087	1820 Sale Cash Entry Act
12S/65W	27	Francis B. Hill	Not Applicable	5/25/1885	CO1140223	1820 Sale Cash Entry Act
12S/65W	27	Francis B. Hill	Not Applicable	6/12/1885	CO1140262	1820 Sale Cash Entry Act
12S/65W	27	Francis B. Hill	Not Applicable	3/1/1886	CO1140415	1820 Sale Cash Entry Act
12S/65W	27	Francis B. Hill	Not Applicable	10/18/1886	CO1140493	1820 Sale Cash Entry Act
12S/65W	27	Francis B. Hill	Not Applicable	10/18/1886	CO1150029	1820 Sale Cash Entry Act
12S/65W	28	Francis B. Hill	Not Applicable	3/1/1886	CO1140386	1820 Sale Cash Entry Act
12S/65W	28	Francis B. Hill	Not Applicable	3/1/1886	CO1140414	1820 Sale Cash Entry Act
12S/65W	28	Francis B. Hill	Not Applicable	10/18/1886	CO1150029	1820 Sale Cash Entry Act
12S/65W	28	Francis B. Hill	Not Applicable	3/5/1890	CO1170177	1820 Sale Cash Entry Act
12S/65W	28	Patrick H. McNeill	Not Applicable	12/5/1884	CO1140151	1820 Sale Cash Entry Act
12S/65W	28	Patrick H. McNeill	Not Applicable	12/5/1884	CO1140188	1820 Sale Cash Entry Act

Cultural Resource Recommendations

Based on the results of the OAHP file search and the desktop data review, it appears that the proposed project area has not been subjected to adequate cultural resource inventory. Subsequently, it is possible that unidentified cultural resources could be impacted by the proposed project.

Therefore, it is recommended prior to ground disturbing activities associated with this project that an intensive cultural resource inventory be conducted. The purpose of this inventory is to identify and to evaluate any undiscovered cultural resources for inclusion in the National Register of Historic Places.

References Cited

Bureau of Land Management

2017a "Survey Plats and Field Notes." General Land Office Records Automation Web Site. United States Department of the Interior, Bureau of Land Management. Electronic database, <http://glorerecords.blm.gov>, accessed March 29, 2017.

2017b "Search Land Patents." General Land Office Records Automation Web Site. United States Department of the Interior, Bureau of Land Management. Electronic database, <http://glorerecords.blm.gov>, accessed March 29, 2017.

Clark, Cynthia

2011 *The American Economy A Historical Encyclopedia*, Revised Edition. ABC-Clío, Denver Colorado.

Library of Congress

2015 *Merrill Act*. Electronic document, <https://www.loc.gov/rr/program/bib/ourdocs/Morrill.html>, accessed March 29, 2017.

National Archives and Records Administration

2010 *Bounty Land Warrants for Military Service, 1775-1855*. Electronic document, www.archives.gov/files/research/military/bounty-land-1775-1855.pdf, accessed March 29, 2017.

OAHP

2017 *Timber Ridge Development; Y17C001 File Search No. 20093*. Colorado Historical Society's Office of Archaeology and Historic Preservation. Denver, Colorado.

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