

**BIOLOGICAL AND CULTURAL ASSESSMENT
FORMER CONOCO PHILLIPS SITE
EAST OF HIGHWAY 36 AND SOUTH 88TH STREET
LOUISVILLE, COLORADO**

Prepared for:

**BRUE BAUKOL CAPITAL PARTNERS
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1.0 INTRODUCTION

Brue Baukol Capital Partners contracted CTL | Thompson, Inc. (CTL) to perform a Biological and Cultural Assessment for the property known as the Former Conoco Phillips Site (the “Site”). The Site is approximately 430 acres in area and is generally located east of Highway 36 and South 88th Street in Louisville, Colorado. The Site is geographically located in the southern ½ and northeastern ¼ of Section 20, the northwestern ¼ of Section 28, and the northern ½ of Section 29, Township 1 South, Range 69 West, of the 6th Principal Meridian, in Boulder and Broomfield Counties, Colorado. We evaluated the Site for:

- The presence of jurisdictional wetlands;
- The presence of threatened or endangered species on the Site;
- The presence of endangered or threatened species critical habitat on the Site; and,
- The presence of registered archeological and/or historic sites on the subject Site.

On February 1, 2019, our Ms. Stacey Mueller conducted a Site visit. Photographic documentation is presented in **Appendix A**. During this visit, Ms. Mueller collected specific information about the Site’s physical features, vegetation, hydrology, soil conditions, and surrounding environmental conditions. This information is required to evaluate aquatic and biological components of the Site. CTL searched publicly available literature on federal, state and local websites, and contacted local historical officials regarding the Site, which are outlined in the **REFERENCES** section of this letter report.

1.1 Summary of Site Historical Use

Much of the Site existed as agricultural land prior to the mid-1960s, when construction of the Storage Technology campus began. Storage Technology and related technology manufacturing businesses occupied the campus from 1970 until 2009, when the campus was demolished. Since 2009, the majority of the Site has remained vacant of structures and roads and has been utilized for cattle grazing by an agricultural tenant. The Site location and plan are



shown on **Figure 1** (Area Map), **Figure 2** (Aquatic Assessment Map), and **Figure 3** (Biological Assessment Map).

1.2 Existing Conditions

The Site consists primarily of native upland vegetation and native wetland vegetation. The majority of the Site is vacant of structures and roads. Much of the former on-Site Storage Technology Corporation (STC) campus roadways and buildings have been demolished, other than portions of Disc Drive, a freshwater lift station, a sewer lift station, a security checkpoint station, three storage buildings, and a generator/electric fire pump station. A small pavilion structure is located adjacent to a pond, on the northeastern portion of the Site. The Helms residence and barn are unoccupied and exist on the northeastern-most portion of the Site at 9255 Paradise Lane. Similarly, the Crider residence is unoccupied and exists at 9355 Paradise Lane.

An electric substation, owned by Xcel Energy, exists as an “outparcel” (not part of the Site) within the southeastern portion of the Site. Two cellular towers exist on the eastern portion of the Site, adjacent to Disc Drive. Access to the Site was provided by Mr. Edmund Brooks of Phillips 66 Company. A photographic record of our Site reconnaissance is presented in **Appendix A**.

2.0 AQUATIC ASSESSMENT

The following subsections discuss our research and on-Site assessment of Waters of the U.S., wetlands, and floodplains on the Site and/or in connection with the Site. Pertinent findings discussed in the following subsections are displayed in **Figure 2**.

2.1 Waters of the U.S.

The Clean Water Act was passed by the U.S. Congress in 1971 to protect the physical, biological, and chemical quality of “Waters of the U.S.” The Corps Regulatory Program administers and enforces Section 404 of the Clean Water Act. Under Section 404, a Corps permit is required for the discharge of dredged or fill material into wetlands and waters of the U.S. The



Corps defines Waters of the U.S. as all navigable waters and their tributaries, all interstate waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters.

The Corps jurisdiction of the “Waters of the U.S.” changed in 2006 as a result of the U.S. Supreme Court’s Decision in *Rapanos v. United States* & *Carabell v. United States*. The June 5, 2007 Agency Guidance document indicates the Corps will continue to assert jurisdiction over all water which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide. The agency will continue to assert jurisdiction over wetlands “adjacent” to traditional navigable waters.

The Corps will assert jurisdiction over non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g. typically three months). The Corps will assert jurisdiction over those adjacent wetlands that have continuous surface connection to such tributaries (e.g. they are not separated by uplands, a berm, dike, or similar feature).

The Corps will assert jurisdiction over non-navigable water, defined as not relatively permanent tributaries and their adjacent wetlands, as long as such tributaries and wetlands have a significant nexus to traditional navigable waters. Significant nexus includes consideration of hydraulic factors including the following:

- Volume, duration, and frequency of flow, including consideration of certain physical characteristics of the tributary;
- Proximity to the traditional navigable water;
- Size of the watershed;
- Average annual rainfall; and,
- Average annual winter snow pack.

Finally, the Corps has indicated the following geographic features generally are not jurisdictional waters:



- Swales or erosion control features (e.g. gullies, small washes characterized by low volume, infrequent, or short duration flow); and,
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

On February 1, 2019, we observed several potential Waters of the US on the Site:

1. We observed Rock Creek on the southeastern-most portion of the Site. Rock Creek is an upstream tributary of Coal Creek. Coal Creek is an upstream tributary of St. Vrain Creek, which is an upstream tributary of the Platte River System. It is our professional opinion that Rock Creek may be considered Waters of U.S. by the Corps. If improvements, discharging, dredge, or fill is planned to impact Rock Creek, permitting and delineation may be required. For a higher level of assurance, the Corps may be contacted to obtain an official jurisdictional determination.
2. We observed Goodhue Ditch on the northeastern portion of the Site. The USGS National Hydrography Dataset (NHD) indicates that Goodhue Ditch is a downstream tributary of Coal Creek. Coal Creek is an upstream tributary of St. Vrain Creek, which is an upstream tributary of the Platte River System. It is our professional opinion that Goodhue Ditch may be considered Waters of the U.S. by the Corps. If improvements, discharging, dredge, or fill is planned to impact Goodhue Ditch, permitting and delineation may be required. For a higher level of assurance, the Corps may be contacted to obtain an official jurisdictional determination.
3. We observed several drainage ditches and ponds throughout the central and northern portions of the Site. The USGS NHD indicates that these features are likely related to stormwater control and that they generally travel east to discharge into Stearns Lake, which is in connection with Rock Creek. It is our professional opinion that the on-Site drainage ditches may be considered Waters of the U.S. by the Corps. If improvements, discharging, dredge, or fill is planned to impact the on-Site drainage features, permitting and delineation may be required. For a higher level of assurance, the Corps may be contacted to obtain an official jurisdictional determination.

Figure 2 displays the potential Waters of the U.S. throughout the Site.

2.2 Wetlands

Wetlands are defined by the U.S. Army Corps of Engineers (Corps) as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically



adapted for life in saturated soil conditions. To meet the classification, a wetland must show evidence of a minimum of one positive wetland indicator from each parameter of hydrology, soil, and vegetation. Each must be found in order to make a positive wetland determination. Delineated wetlands that are determined as jurisdictional by the Corps are regulated and proper care must be taken to protect them during development. If the disturbance and/or development of a jurisdictional wetland cannot be avoided, the Corps may approve mitigation. Mitigation may include the construction of a new wetland to replace the former wetland, either on or off the Site. Guidelines for the mitigation of new wetlands are outlined in the U.S. Army Corps of Engineers Standard Operating Procedures for the Regulatory Program.

On February 1, 2019, we observed several wetlands as defined by the Army Corps of Engineers throughout the Site:

1. We observed a wetland in connection to Rock Creek in the southeastern-most portion of the Site. The area can be identified by hydrophytic plant species, hydric soil indicators, and surface water. It is our professional opinion that the wetland in association with Rock Creek may be considered jurisdictional by the Corps. If development is planned for this area, we recommend a wetland delineation to obtain a jurisdictional determination from the Corps.
2. We observed a wetland in connection to Goodhue Ditch throughout the northeastern portion of the Site. The area can be identified by hydrophytic plant species and hydric soil indicators. On February 1, 2019, we did not observe surface water; however, we observed indications of hydrology within the wetland area. It is our professional opinion that the wetland associated with Goodhue Ditch may be considered jurisdictional by the Corps. If development is planned for the area, we recommend a wetland delineation to obtain a jurisdictional determination from the Corps.
3. We observed several wetlands in connection to the drainage ditches and ponds throughout the northern and central portions of the Site. These areas can be identified by hydrophytic plant species, hydric soil indicators, hydrology indicators, and/or surface water. It is our professional opinion that the wetlands associated with the on-Site drainage ditches and ponds may be considered jurisdictional by the Corps. If development is planned for these areas, we recommend a wetland delineation to obtain a jurisdictional determination from the Corps.
4. We observed a wetland within the southeastern portion of the Site. The area can be identified by hydrophytic plant species and hydrology indicators. The wetland appeared to be in connection with potential stormwater control features of the Site and did not appear to be in connection with Stearns Lake, Rock Creek, or Goodhue Ditch. It is our professional opinion that this wetland is likely not considered jurisdictional by the Corps. For a higher level of assurance, we



recommend a wetland delineation to obtain a jurisdictional determination from the Corps.

The U.S. Fish and Wildlife Service (USFWS) defines wetlands as lands transitional between terrestrial and aquatic systems, where the water table is usually at or near the surface, or the land is covered by shallow water. For the purpose of this classification, wetlands must have at least one of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of the year.

CTL used a USFWS National Wetland Inventory Map as an aid to help determine the location of wetlands that might be present at the Site, included in **Appendix B**. The map displays wetlands, ponds, and tributaries throughout the Site, which generally conform with the features previously discussed in Section 2.1 and Section 2.2; however, we observed additional wetlands as defined by USFWS on the Site on February 1, 2019.

Figure 2 displays the potential jurisdictional wetlands throughout the Site.

2.3 Floodplains

The Federal Emergency Management Agency (FEMA) provides Flood Insurance Risk Maps (FIRMs), which display floodplains (also referred to as flood zones) and define floodplains based on the annual chance of flooding over a designated period of years. Floodplains may provide critical habitat for State and/or Federal protected species. FEMA also provides locations of regulatory floodways. Regulatory floodways which must be reserved in order to discharge the base flood of an area without cumulatively increasing the water surface elevation more than a designated height. Additionally, FEMA requires hydrologic and hydraulic analyses that demonstrate that the proposed development of a regulatory floodway would not result in any increase of flood levels.

We researched the FEMA National Flood Hazard Layer (NFHL) map for floodplains on the Site. The FEMA NFHL indicated two 100-year floodplains and two 500-year floodplains on the southeastern-most portion of the Site, in the general area of Rock Creek. FIRMs of the on-



Site floodplain areas are included in **Appendix C**. The NFHL did not indicate regulatory floodways on the Site.

3.0 BIOLOGICAL ASSESSMENT

The following subsections discuss our assessment of critical habitat or potential habitat of State and Federal protected species, as well as other species of concern, on the Site and/or in connection with the Site. Pertinent findings discussed in the following subsections are displayed in **Figure 3**.

3.1 Federal Threatened, Endangered, and Candidate Species

The project area was assessed for potential habitat for threatened, endangered, and candidate species under the Endangered Species Act (ESA). Federally threatened and endangered species are protected under the Endangered Species Act of 1973 as amended (16 U.S.C. 1531 et seq.). Significant adverse effects to a federally listed species or its habitat require consultation with the U.S. Fish and Wildlife (USFWS) under Section 7 or 10 of the Endangered Species Act (ESA). The service lists 12 threatened or endangered species with potential habitat in Boulder and Broomfield Counties (USFWS 2017). Table I lists common and scientific names and the status of the species.

Table I
Federal Threatened, Endangered, and Candidate Species
Boulder and Broomfield County

Common Name	Taxonomy	Status
Canada Lynx	Mammal - <i>Lynx canadensis</i>	Threatened
Preble's Jumping Mouse	Mammal - <i>Zapus hudsonius preblei</i>	Threatened
North American Wolverine	Mammal - <i>Gulo gulo luscus</i>	Proposed Threatened
Mexican Spotted Owl	Bird - <i>Strix occidentalis lucida</i>	Threatened
Interior Least Tern	Bird - <i>Sterna antillarum athalassos</i>	Endangered
Piping Plover	Bird - <i>Charadrius melodus</i>	Threatened
Whooping Crane	Bird - <i>Grus americanus</i>	Endangered
Pallid Sturgeon	Fish - <i>Scaphithynchus albus</i>	Endangered



Common Name	Taxonomy	Status
Greenback Cutthroat Trout	Fish - <i>Oncorhynchus clarki stomias</i>	Threatened
Ute Ladies'-tresses	Plant - <i>Spiranthes diluvialis</i>	Threatened
Colorado Butterfly Plant	Plant - <i>Gaura neomexicana</i> var. <i>coloradensis</i>	Threatened
Western Prairie Fringed Orchid	Plant - <i>Platanthera praeclara</i>	Threatened

The Canada lynx (*Lynx canadensis*) is a medium-sized cat with long legs, large paws, long tufts on the ears, and a short, black-tipped tail. The lynx is highly adapted for hunting in deep snow due to its long legs and large feet. Distribution of lynx is closely associated with boreal forest in North America, particularly in areas that receive deep snow and have high-density populations of snowshoe hares. Boreal forest is not present on the Site. It is unlikely development of the Site will impact the Canada Lynx due to lack of habitat within the Site boundaries.

The North American Wolverine (*Gulo gulo*) is the largest member of the Mustelidae family, also known as the weasel family. The wolverine is a stocky and muscular animal that more closely resembles a bear than other members of its family. Wolverines can weigh up to 70 pounds but typically weigh between 20 to 40 pounds. The species requires a habitat that is cold and receives enough snow to reliably maintain deep snow late into the warm season. The southern areas of the species' range are restricted to high elevations where near-arctic conditions occur. Due to the southern latitude and non-alpine environment, it is our opinion that the Site does not present habitat suitable for the North American Wolverine. It is unlikely development of the Site will impact the North American Wolverine.

The Mexican Spotted Owl (*Strix occidentalis lucida*) is a large bird that nests and roosts on cliff ledges or in caves in canyons with dense stands of ponderosa pine or pinyon-juniper, in forests with high canopy cover, and open understory. An adequate habitat includes large trees, uneven aged tree stands, multi-storied canopy, standing dead trees, and a tree canopy creating shade over 40 percent or more of the ground with some type of water source available. There are no cliff ledges or caves located on the Site and tree canopy did not cover 40 percent of the ground. It is unlikely that the proposed development of the Site would impact the Mexican spotted owl, due to the lack of potential habitat within the Site boundaries.



The Interior Least Tern (*Sterna antillarum athalassos*), Piping plover (*Charadrius melodus*), and the Whooping Crane (*Grus americanus*) are species that are affected by impacts to waterways and lakes. These species of bird typically reside along sandy shorelines of creeks, lakes, and rivers. There are no large bodies of water with sandy shorelines present on the Site, thus there is no suitable habitat for these species. We did not observe evidence of these birds, nor do we believe the development of the Site will adversely impact these bird species based on the lack of habitat within the Site boundaries.

The Pallid Sturgeon is a river bottom dweller, found in areas of strong current and firm sand bottom in the main channel of large turbid rivers such as the Platte River. There are no known occurrences of the Pallid Sturgeon in Colorado. The species would be adversely impacted if large rivers in Colorado that flow into Nebraska were impacted. There are not large rivers on the Site that flow into Nebraska. Thus, we do not believe that the development of the Site will adversely affect this species.

The Greenback Cutthroat Trout (*Oncorhynchus clarki stomias*) is a coldwater fish belonging to the trout, salmon and whitefish family. They have dark, round, spots on the sides and tail and two colorful blood-red stripes on each side of the throat under the jaw. Greenbacks prefer cold, clear gravely headwater streams and mountain lakes which provide an abundant food supply of insects. Greenbacks originally lived in the mountain and foothill areas of the Arkansas and South Platte River systems. There are no headwater streams or mountain lakes located on the Site. Based on the lack of suitable habitat within the Site boundaries, we believe that the development of the Site will not adversely affect this species.

The Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*), also referred to as PMJM, is a species that is typically located in low undergrowth consisting of grasses and forbs, in open wet meadows, riparian corridors near forests, or where tall shrubs and low trees provide adequate cover. The mice prefer well developed riparian habitat with adjacent, relatively undisturbed grassland communities and a nearby water source. Their nests are composed of plant material and are generally located aboveground at the base of shrubs and trees or in open grasslands. The Site was assessed for potential Preble's jumping mouse habitat. The Boulder County Comprehensive Plan (BCCP) Preble's Jumping Mouse Conservation Areas Map (see **Appendix D**) indicates that Rock Creek, present on the southeastern-most portion of



the Site, is categorized as a Zone 5 habitat. Zone 5 is a category that includes areas of suitable habitat that are not contiguous to a known population and are not known to be occupied by the PMJM. It is our opinion that Rock Creek and its floodplains present suitable habitat for the PMJM. If development is planned for Rock Creek and its floodplains, we recommend consultation with CPW and USFWS.

The Ute Ladies'-Tresses Orchid (*Spiranthes diluvialis*) typically occurs at elevations below 6,500 feet in moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes. Occurrences of Ute ladies'-tresses have been documented in Colorado, Wyoming, Idaho, Nevada and Utah. The populations in Colorado mostly occur along the Front Range. The Site was assessed for potential Ute ladies'-tresses habitat. Floodplains of Rock Creek exist on the Site; however, Rock Creek is an intermittent stream, rather than a perennial stream. We did not observe evidence of the Ute ladies'-tresses. It is our opinion that the Site does not present habitat suitable for the Ute ladies'-tresses and that development of the Site will not adversely affect this species.

The Colorado Butterfly Plant (*Gaura neomexicana* var. *coloradensis*) is a short-lived perennial herb with reddish stems that are 2 to 3 feet tall. Flowers are arranged in a branched, elongated pattern around the leaves and have four reddish sepals (modified leaves surrounding the flower) and four white petals that turn pink or red with age. It is found within a small area of southeastern Wyoming, western Nebraska, as well as Platte, Larimer and Weld Counties in Colorado, mostly on private lands managed for livestock and agriculture. The Colorado butterfly plant is found in active floodplains along perennial streams and occurs where vegetation is relatively open. The Site was assessed for potential Colorado Butterfly Plant habitat. Floodplains of Rock Creek exist on the Site; however, Rock Creek is an intermittent stream, rather than a perennial stream. We did not observe evidence of the Colorado butterfly plant. It is our opinion that the Site does not present habitat suitable for the Colorado butterfly plant and that the development of the Site will not adversely affect this species.

The Western Prairie Fringed Orchid (*Spiranthes diluvialis*) is a perennial orchid found in North American tall grass prairies. The orchid grows to a height of approximately four feet tall with a flowering stalk that bears up to 24 white flowers about one inch across. The species is believed to occur in Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South



Dakota. This species is listed in Boulder County because of the potential downstream effects from activities in this area. Upstream depletions of the Platte River system may affect the species in Nebraska. Rock Creek is an upstream tributary of St. Vrain Creek, which is an upstream tributary of the Platte River System. It is our opinion that development of Rock Creek, present on the southeastern-most portion of the Site, may adversely impact the Western prairie fringed orchid. If development is planned for this area of the Site, we recommend consultation with CPW and USFWS.

3.2 State Threatened, Endangered, and Candidate Species

The Burrowing Owl (*Athene cunicularia*) is a small, migratory owl that occupies prairie dog towns in Colorado during the spring and summer breeding season. The owl is active during the day and uses prairie dog burrows for nesting and roosting. Burrowing owls are a threatened species, and are protected under federal and state laws, including the Migratory Bird Treaty Act. Per CPW, no human encroachment is allowed within 150 feet of prairie dog burrows that are being used as nests from March 15 through October 31. It is recommended that efforts to eradicate prairie dogs or destroy abandoned towns do not occur between March 15 and October 31, as owls may be present. We did not observe burrowing owls on the Site, as February 1 falls outside of their migratory season. We observed active prairie dog towns throughout the northern portion and southern portions of the Site (see **Figure 3**), indicating suitable habitat for burrowing owls. If development is planned for the Site during the owls' migratory season (March 15 through October 31), we recommend a burrowing owl survey.

Other State listed species in Colorado been taken into consideration. Based on lack of suitable habitat on Site and information regarding population locations from CPW, we do not believe these species to be a concern for the Site.

3.3 Other Species of Concern

The Black-Tailed Prairie Dog (*Cynomys ludovicianus*) is a burrowing rodent, 15 inches in length with a black-tipped tail. They do not hibernate but will remain underground for several consecutive days during extremely cold weather. Once occupying seven million acres in Colorado, the black-tailed prairie dog is now present on the eastern third of Colorado below



6,000 feet. Approximately 150 other species rely on the habitat that the black-tailed prairie dog creates. We observed active prairie dog towns on northern and southern portions of the Site, within Boulder County, and on the southeastern-most portion of the Site, within Broomfield County (see **Figure 3**).

Boulder County does not have a prairie dog management plan or policy for private properties. Colorado Parks and Wildlife (CPW) recommends attempting to remove or exterminate prairie dogs prior to bulldozing an active prairie dog town for humane reasons.

The Colorado Parks and Wildlife offers three options for the handling of prairie dogs:

1. Do nothing and develop the Site as per usual.
2. Poison the Prairie Dogs.
3. Relocation; this requires that the developer find an appropriate site and obtain CPW approval of the site (wild to wild permit). Alternatively, the prairie dogs may be transported to facilities that support the USFWS national black-footed ferret recovery program (wild to black-footed ferret recovery program permit) or a licensed raptor rehabilitation program (wild to raptor rehabilitation permit). No permit fees are charged for the wild to black-footed ferret recovery program permit or wild to raptor rehabilitation permit.

Broomfield County upholds a policy for Prairie Dog Conservation and Management for private and public properties. This policy is implemented to avoid adverse impacts to prairie dog towns to the extent reasonable in planning land development or land use change. In order to fulfill the goals of the City and County of Broomfield's Prairie Dog Conservation and Management Policy, the City has established the following priority ranking for owners or occupants of private land to deal with prairie dogs in situations where the continued existence of a colony conflicts with an intended land use:

1. Relocation to a land not owned by the City (i.e. private land, or other public land).
2. Relocation to a designated release site on City Open Space.
3. Removal by live-trapping, water flushing, vacuum truck, or other approved method for use in the black-footed ferret program or other City approved wildlife recovery program such as the Rocky Mountain Raptor Program.



4. As a last resort, humane extermination or lethal control using approved toxicants. Any relocation, removal, or extermination of prairie dogs from private land shall require a permit from the City of Broomfield. In addition to acquiring a permit, the applicant must submit a public notice to the local newspaper at least five days prior to any proposed action. The permit applicant must also provide a list of all landowners within a quarter mile of the existing prairie dog site and release site if applicable, furnishing the City with stamped, addressed envelopes for such landowners, and posting an informational sign at the existing prairie dog site and the proposed release site if applicable.

Additionally, the on-Site prairie dog towns present a concern for burrowing owls, a State listed species (see Section 3.2). As discussed in the previous section, we recommend a burrowing owl survey if development of the Site is planned during burrowing owl migration season (March 15 through October 31), as burrowing owl nests may be present on-Site.

Other species of concern listed by CPW have been taken into consideration. Based on lack of on-Site suitable habitat and information regarding population locations from CPW, we do not believe these species to be a concern for the Site.

3.4 Migratory Birds Treaty Act

Migratory birds, as well as their eggs and nests, are protected under the Migratory Birds Treaty Act (MBTA). The MBTA does not contain any prohibition that applies to the destruction of a bird nest alone (without bird or eggs), provided that no “take” (of bird or eggs) occurs during the destruction. The regulatory definition of “take” means to pursue, hunt, shoot, kill, trap, capture or collect, or attempt to pursue, hunt, wound, kill, trap, capture, or collect. While destruction of a nest by itself is not prohibited under MBTA, nest destruction that results in the unpermitted take of migratory birds or their eggs is illegal and fully prosecutable under the MBTA. One method to avoid a violation of the MBTA is to remove vegetation and nests outside the active breeding season, which typically falls between March and August, depending on species.

The Site was assessed for potential migratory bird nesting habitat. The majority of the Site generally provides tree-nesting and ground-nesting migratory bird habitat. Additionally, we observed a Great Horned Owl (*Bubo virginianus*) and its nest on the Site, as well as two



potential raptor nests (see **Figure 3**). For a higher level of assurance and to avoid destruction of migratory bird nests, vegetation should be removed outside of the breeding season (March to August).

3.5 Bald and Golden Eagle Protection Act of 1940

Bald Eagles (*Haliaeetus leucocephalus*) and Golden Eagles (*Aquila chrysaetos*) are protected by the MBTA (discussed in the previous section) and the Bald and Golden Eagle Protection Act of 1940, as amended November 1978. These species nest in a variety of habitats, including on cliffs and in large trees, and prefer a nearby water source. The Act allows further protection of eagles by prohibiting anyone, without a permit issued by the Secretary of the Interior, from “taking” eagles, including their parts, eggs or nests. Like MBTA, “take” means to pursue, hunt, wound, kill, trap, capture, or collect; however, it also includes “disturb,” which means to agitate or bother a bald or golden eagle to the level that causes or is likely to cause injury, decrease in productivity, or nest abandonment.

CPW data indicates that the Site falls within a known bald eagle summer forage range and winter forage range, which suggests that eagles hunt on the Site for food. CPW data also indicates two recorded bald eagle nests within 1.5 miles of the eastern portion of the Site. We did not observe eagle nests on the Site; however, it is our professional opinion that the large overgrown trees and water sources on and nearby the Site may provide habitat for bald eagle and golden eagle nests. For a higher level of assurance and to avoid destruction of a bald eagle or golden eagle nest, vegetation should be removed outside of the breeding season (March to August).

4.0 CULTURAL RESOURCE ASSESSMENT

The following section discusses our assessment of historical or archaeological listings on the Site and/or in connection with the Site.



4.1 Historical and Archaeological Findings

Historic properties are properties that are included in the National Register of Historic Places or that meet the criteria for the National Register. Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effects of their undertakings on historic properties prior to construction. If it determines that it has no undertaking, or that its undertaking is a type of activity that has no potential to affect historic properties, the agency has no further Section 106 obligations. However, if it determines its undertaking may have an adverse effect on a historic property it must notify the appropriate State Historic Preservation Officer/Tribal Historic Preservation Officer to consult with during the process. It should also plan to involve the public and identify other potential consulting parties. Additionally, under NHPA Section 110(f), where a federal undertaking may directly and adversely affect a property designated as a National Historic Landmark, the agency must, prior to approving the undertaking and to the maximum extent possible, undertake such planning and actions necessary to minimize harm to such landmark. It should be noted, that with certain limited exceptions, federal agencies are prohibited by NHPA Section 110(k) from granting loans, loan guarantees, permits, licenses, or other assistance to any applicant who intentionally significantly adversely affected a historic property to which the assistance would relate with the intent to avoid the requirements of Section 106. If you perform these activities prior to the start of construction, it will help to avoid significant project delays and possible project cancellation. A review of listed cultural resources does not always rise to the level of a Section 106 review.

CTL contacted the Colorado Historical Society, Office of Archaeology and Historic Preservation, and requested a search of the Colorado Inventory of Cultural Resources. We received a response on January 10, 2019, which listed several surveys and sites within Sections 20, 28, and 29 of Township 1 South, Range 69 West. The surveys and sites within these areas are listed as officially not eligible for inclusion on the National Register.

5.0 OPINION AND RECOMMENDATION

Based on the direct field observations and our limited literature research, it is our professional opinion that Rock Creek, Goodhue Ditch, and the on-Site drainage ditches present potential jurisdictional Waters of the U.S. If improvements, discharging, dredge, or fill is planned



to impact these areas, permitting and delineation may be required. For a higher level of assurance, the Corps may be contacted to obtain official jurisdictional determinations.

We observed several wetlands defined by the Army Corps of Engineers or the USFWS on the Site, associated with Rock Creek, Goodhue Ditch, and the on-Site drainage ditches. It is our professional opinion that the wetlands associated with these features may be considered jurisdictional by the Corps. If development is planned for these areas, we recommend a wetland delineation to obtain a jurisdictional determination from the Corps.

We did not observe the presence of Federal or State listed species on the Site.

The Boulder County Comprehensive Plan (BCCP) Preble's Jumping Mouse Conservation Areas Map indicates that Rock Creek, present on the southeastern-most portion of the Site, is categorized as a Zone 5 habitat. Zone 5 is a category that includes areas of suitable habitat that are not contiguous to a known population and are not known to be occupied by the PMJM. It is our opinion that Rock Creek and its floodplains present suitable habitat for the PMJM. If development is planned for Rock Creek and its floodplains, we recommend consultation with CPW and USFWS.

Upstream depletions of the Platte River system may affect the Western Prairie Fringed Orchid in Nebraska. Rock Creek is an upstream tributary of St. Vrain Creek, which is an upstream tributary of the Platte River System. It is our opinion that development of Rock Creek, present on the southeastern-most portion of the Site, may adversely impact the Western prairie fringed orchid. If development is planned for this area of the Site, we recommend consultation with CPW and USFWS.

Black-Tailed Prairie Dogs, a State listed Species of Concern, were observed on the northern portions and southern portions of the Site. Boulder County does not have specific management recommendations for prairie dogs on private property, but Broomfield County does. Any relocation, removal, or extermination of prairie dogs from private land shall require a permit from the City of Broomfield, among other requirements previously discussed.



Due to the timing of the Site visit, it is unclear if burrowing owls may be present on the Site during the spring and summer months. If development of the Site is planned between March 15 and October 31, we recommend a burrowing owl survey to ensure the owls are not nesting in the on-Site prairie dog burrows.

The majority of the Site presents suitable tree-nesting and ground-nesting habitat for migratory bird species, including bald eagles and golden eagles. Additionally, we observed a great horned owl nest and two other potential raptor nests on the Site. For a higher level of assurance and to avoid destruction of ground-nesting migratory bird nests, vegetation should be removed outside of the breeding season (March to August).

Historical surveys and sites that may be located on the Site are listed as officially not eligible for inclusion on the National Register of Historic Places.

6.0 LIMITATIONS

This assessment only applies to the site in its current state, in areas that were easily observed. This assessment only applies to areas of observation. We believe that CTL performed services in a professional manner, consistent with industry standards and practices in the locality of the project at the time the services were performed. No warranty, express or implied, is made.

CTL | THOMPSON, INC.

Stacey K. Mueller
Environmental Scientist

Reviewed by:

Matthew L. Wardlow, P.E.
Environmental Department Manager

SKM:MLW/nn

Via e-mail: jordan.swisher@bruebaukol.com



REFERENCES

Munsell Soils Color Charts, 1992 Revised Addition.

National Register of Historic Places, National Register Information System website,
www.nr.nps.gov.

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U.S. Fish and Wildlife Service, Mountain and Prairie Region, Endangered Species Program website, www.mountain-prairie.fws.gov/endspp.

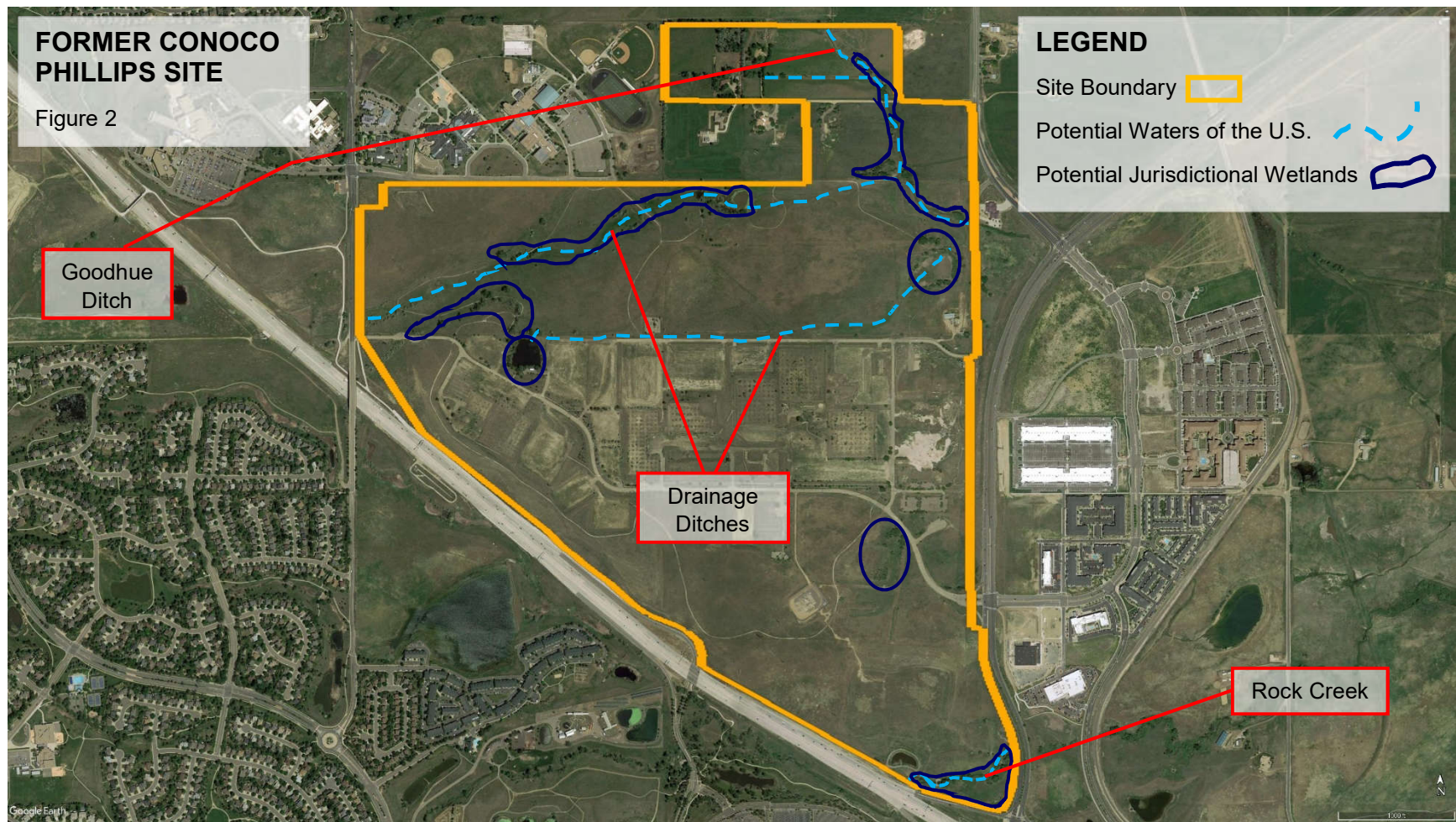
U.S. Fish and Wildlife Service, National Wetlands Inventory,
<http://nmviewogc.cr.usgs.gov/viewer.html>.

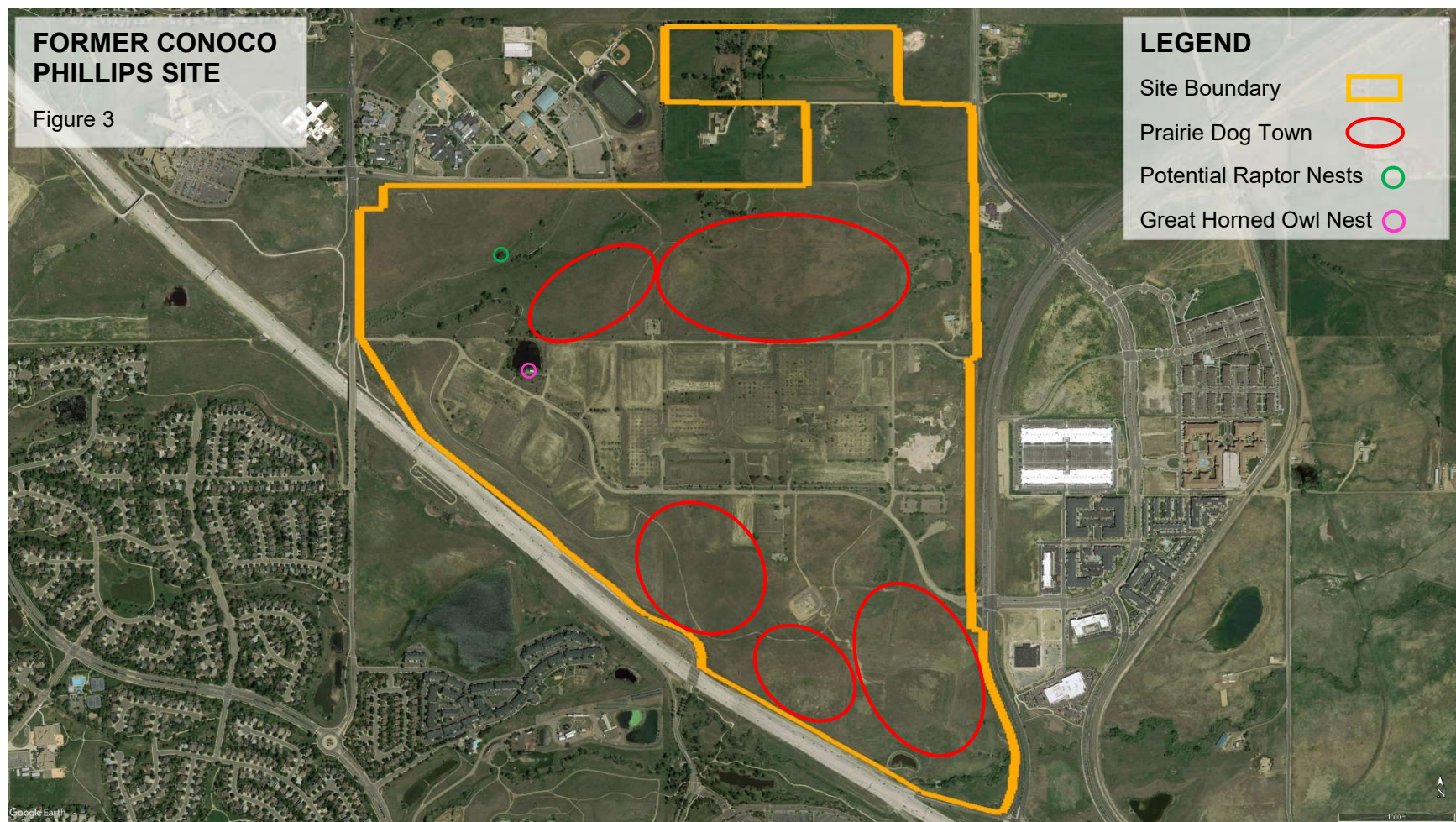
U.S. Geological Survey Topographic Map, Piney Creek Quadrangle, Colorado (1890, 1940, 1942, 1953, 1957, 1960, 1966, 1981, and 2013).

Rocky Mountain Flora, William A. Weber, Copyright 1976.

Scats and Tracks of the Rocky Mountains, James C Halfpenny, PH. D., Copyright 2001.

The Guide to Colorado Birds, Mary Taylor, Copyright 1998.







APPENDIX A

SITE PHOTOGRAPHS



Description: General Site View
View Direction: North



Description: General Site View
View Direction: West



Description: General Site View
View Direction: South



Description: General Site View
View Direction: East

SITE PHOTOGRAPHS



Description: Rock Creek Wetland
View Direction: Southeast



Description: Rock Creek
View Direction: Southeast



Description: Wetland Adjacent to Drainage Ditches
View Direction: West



Description: Wetland Adjacent to Drainage Ditches
View Direction: Northwest

SITE PHOTOGRAPHS



Description: Wetland Adjacent to Goodhue Ditch
View Direction: North



Description: Prairie Dog Burrows
View Direction: East



Description: General Tree-Nesting Habitat
View Direction: South



Description: General Ground-Nesting Habitat
View Direction: North

SITE PHOTOGRAPHS



APPENDIX B

WETLAND INVENTORY MAP



U.S. Fish and Wildlife Service

National Wetlands Inventory

Former Conoco Phillips Site



February 4, 2019

Wetlands

	Estuarine and Marine Deepwater		Freshwater Emergent Wetland		Lake
	Estuarine and Marine Wetland		Freshwater Forested/Shrub Wetland		Other
	Freshwater Pond		Riverine		

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



APPENDIX C

FEMA FLOOD INSURANCE RISK MAPS

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **Flowways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only to landward of 0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **flowways** were computed at cross sections and interpolated between cross sections. The flowways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Flowway widths and other pertinent flowway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 13. The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NGAAS, NNGS12
National Geodetic Survey
SSMCA-2002
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>

Base map information shown on this FIRM was provided by the FEMA Map Service Center (MSC) website at <http://msc.fema.gov>. Additional input was provided by the Town of Erie and the City of Longmont. These data are current as of 2004.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and flowways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables for multiple streams in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels, community map repository addresses, and a listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

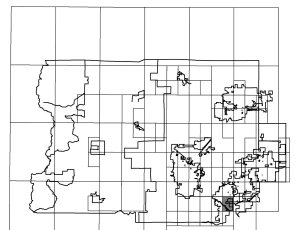
If you have **questions about this map**, how to order products, or the National Flood Insurance Program in general, please call the **FEMA Map Information xChange (FMIX)** at 1-877-FEMA-MAP (1-877-336-2827) or visit the FEMA website at <http://www.fema.gov/businessinfo>.

Boulder County Vertical Datum Offset Table

Flooding Source	Vertical Datum Offset (ft)	Flooding Source	Vertical Datum Offset (ft)
Coal Creek	3.3	Rock Creek	3.2

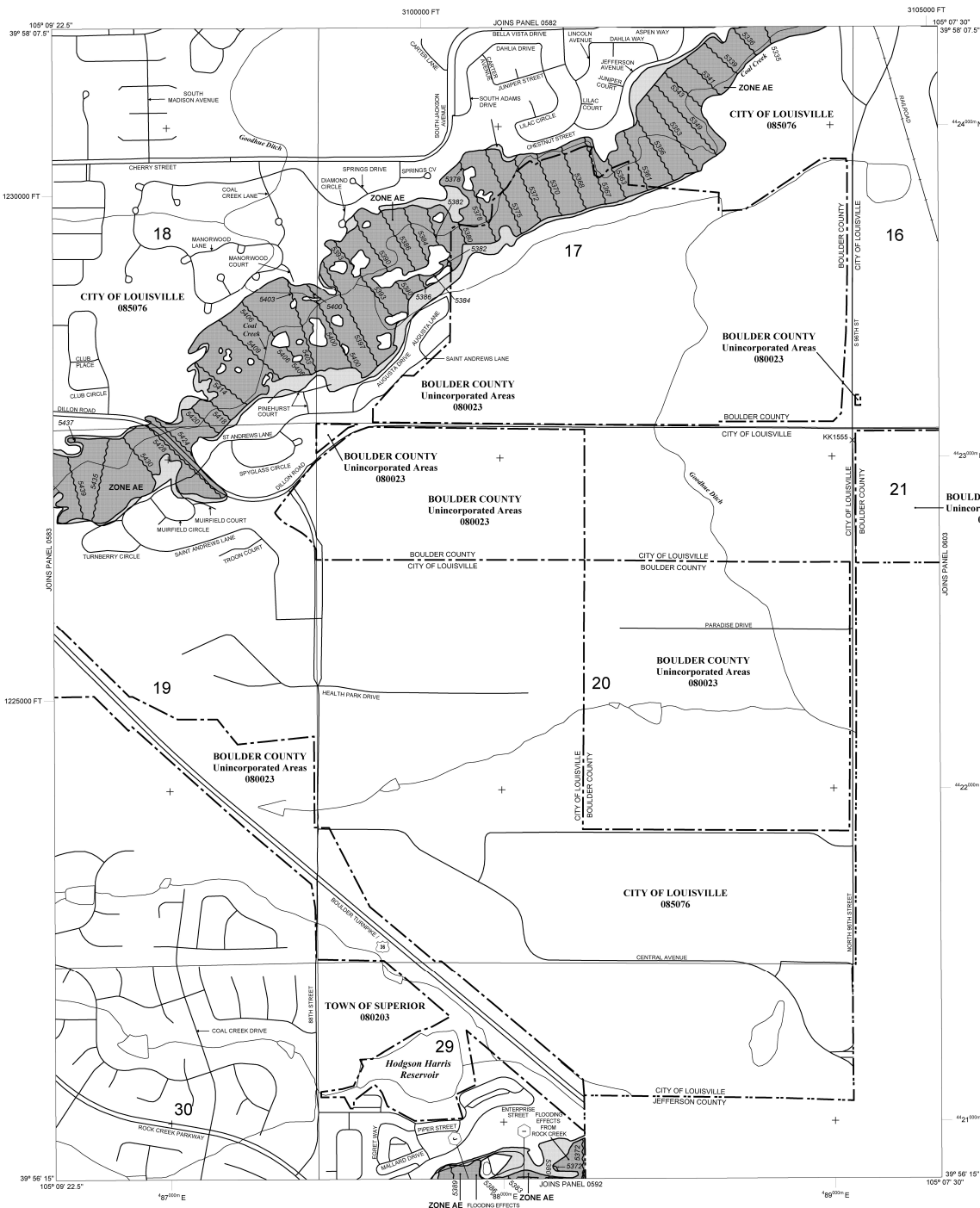
Example: To convert Coal Creek elevations to NAVD 88, 3.3 feet were added to the NGVD 29 elevations.

Panel Location Map



This digital Flood Insurance Rate Map (FIRM) was produced through a cooperative partnership between the State of Colorado Water Conservation Board, the Urban Drainage and Flood Control District, and the Federal Emergency Management Agency (FEMA). The State of Colorado Water Conservation Board and the Urban Drainage and Flood Control District have implemented a long-term program of floodplain management to reduce the costs associated with flooding. As part of this effort, both the State of Colorado and the Urban Drainage and Flood Control District have joined in Cooperating Technical Partner agreements with FEMA to produce this digital FIRM.

Additional Flood Hazard information and resources are available from local communities, the Colorado Water Conservation Board, and the Urban Drainage and Flood Control District.



NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 1 SOUTH, RANGE 68 WEST.

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AD, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevation determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AD** Flood depths of 1 to 3 feet (usually shear flow on sloping terrain); average depths determined. For areas of advanced flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently identified. Zone AR indicates that the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with discharge areas less than 1 square mile and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- ZONE R** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
- OTHERWISE PROTECTED AREAS (OPAs)**

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary**
- Floodway boundary**
- Zone D boundary**
- CBRS and OPA boundary**
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.**

- Base Flood Elevation line and value; elevation in feet" (EL 987)**
- Base Flood Elevation line value uniform within zone; elevation in feet"**

*Referenced to the North American Vertical Datum of 1988

- Cross section line**
- Transit line**
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere**

49° 02' 08", 91° 02' 12"

3180000 FT 1000-meter Universal Transverse Mercator grid values, zone 13

3180000 FT 1000-foot ticks: Colorado State Plane North Zone (FIPS Zone 5001), Lambert Conformal Conic projection

DX5510 Bench mark (see explanation in Notes to Users section of this FIRM panel)

M1.5 river mile

MAP REPOSITORY Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTY FLOOD INSURANCE RATE MAP June 2, 1995

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL May 6, 1996 - to incorporate previously issued Letters of Map Revision. To add roads and road names, and to update corporate limits.

October 4, 2002 - to change base flood elevations to change special flood hazard areas to change zone designations, to update roads and road names, to reflect updated topographic information, to incorporate previously issued Letters of Map Revision, and to change floodway boundaries.

December 18, 2012 - to update corporate limits, to update roads and road names, to add Special Flood Hazard Areas previously shown on Town of Erie, Colorado Flood Insurance Rate Map dated December 2, 2004, and to incorporate previously issued Letters of Map Revision.

For community map version history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6622.

MAP SCALE 1" = 500'

200 0 500 1000 FEET

100 0 100 200 METERS

PANEL 0584J

FIRM

FLOOD INSURANCE RATE MAP

BOULDER COUNTY, COLORADO

AND INCORPORATED AREAS

PANEL 584 OF 615

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY **NUMBER** **PANEL** **SUFFIX**

BOULDER COUNTY 080023 0584 J

LOUISVILLE, CITY OF 080076 0584 J

SUPERIOR, TOWN OF 080023 0584 J

Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER **08013C0584J**

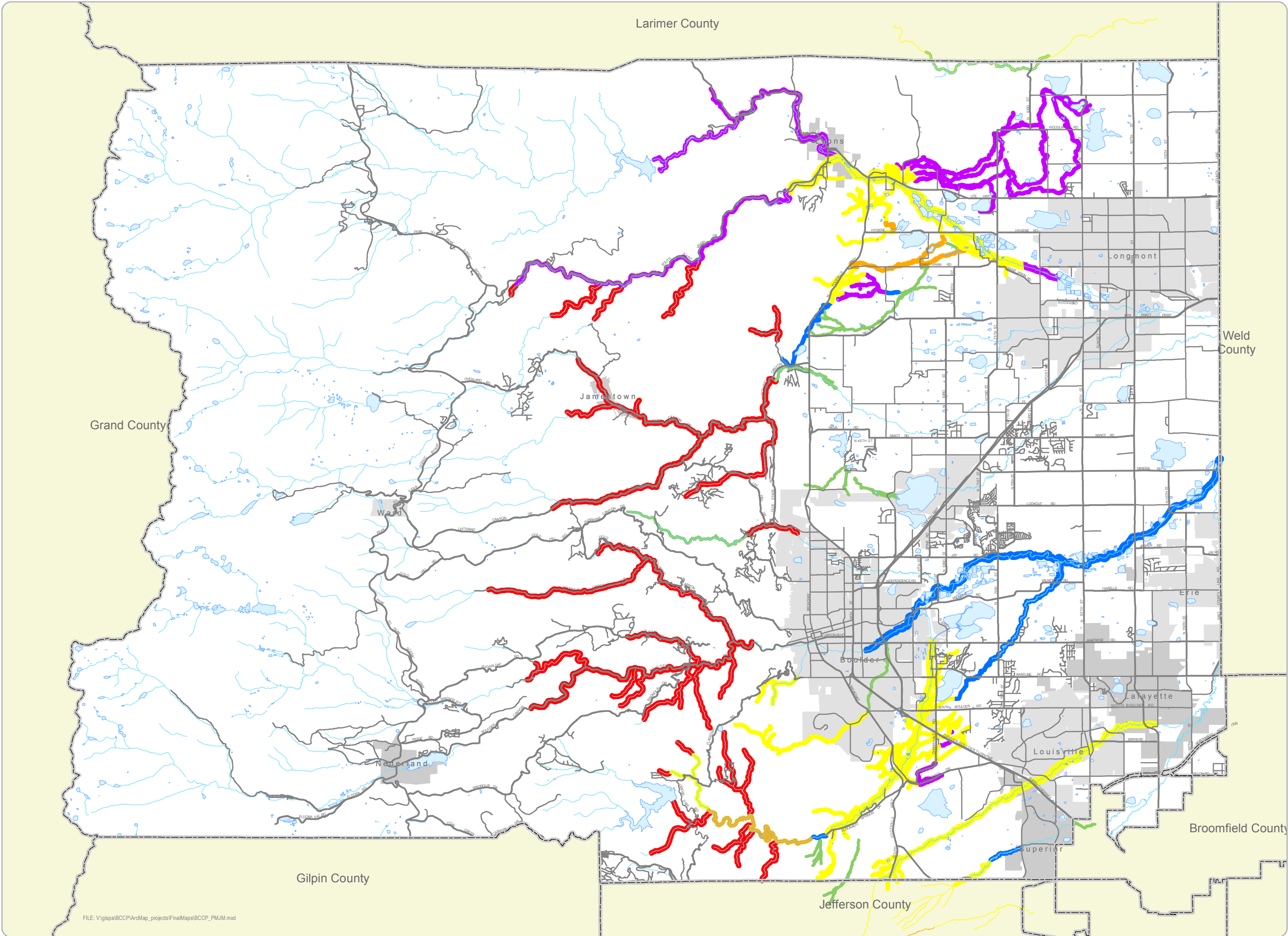
MAP REVISED **DECEMBER 18, 2012**

Federal Emergency Management Agency



APPENDIX D

BCCP PREBLE'S JUMPING MOUSE CONSERVATION AREAS MAP



FILE: V:\gispa\BCCP\ArcMap_projects\FinalMaps\BCCP_PMJM.mxd

Habitat Conservation Areas for Prebles Meadow Jumping Mouse



Boulder County Comprehensive Plan

Habitat Conservation Areas Descriptions

Habitat Conservation Areas are adapted from the "Possible Conservation Zones" of the PMJM Conservation Handbook. The designations guide conservation of PMJM habitat with the overarching goal of aiding in the recovery of this Threatened species.

Zone 1 Mouse Management Area (MMA)



Areas in which PMJM is known to occur, including adjacent habitat patches that are likely to be occupied. Management should emphasize maintaining higher quality riparian habitat and higher numbers of mice. Areas of poor quality are priorities for restoration with high expectations for success.

Zone 2 Possible Linkages



Linkages are designated for populations that once occurred as a single unit, but are now fragmented. Linkages provide adequate structure for a few mice to "make it to the other side", facilitating dispersal, population maintenance, and genetic exchange.

Zone 3 Suitable Contiguous Habitat



Areas of suitable habitat that are contiguous to a known population and are not known to be occupied by PMJM (i.e. PMJM either have not been captured or no trapping has occurred).

Zone 4 Potential Restoration, Contiguous



Areas not known to be occupied but contiguous with known populations where restoration of unsuitable or degraded habitat could result in a significant increase in a PMJM population.

Zone 5 Suitable, Noncontiguous Habitat



Areas of suitable habitat that are NOT contiguous to a known population and are not known to be occupied by PMJM.

Foothills Perennial Stream Habitat



Areas of suitable PMJM habitat along foothills perennial streams up to 7,600 ft. in elevation not covered under one of the other designations. PMJM are known to occupy riparian habitat up to this elevation (USFWS 2004).

Revisions Adopted July 15, 2015
Planning Commission



0 0.75 1.5 3 Miles

The user agrees to all Terms of Use set forth by Boulder County
For Terms of Use, please visit: www.bouldercounty.org/mapsclaimer