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**Desktop Cultural Resources Review of
the Proposed Brighton West
Interconnect to Riverdale Interconnect,
Adams County, Colorado**

Prepared for

Discovery DJ Services, LLC

Prepared by

SWCA Environmental Consultants

February 2017



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Interconnect to Riverdale Interconnect,
Adams County, Colorado**

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EXECUTIVE SUMMARY

Discovery DJ Services, LLC, contracted SWCA Environmental Consultants to complete a cultural resources review for 3.92 linear miles of proposed pipeline between Broomfield and Brighton, Adams County, Colorado (the Brighton West Interconnect to Riverdale Interconnect pipeline). The resources review considered a 400-foot-wide corridor centered on the pipeline for potential direct project effects, and a 1-mile-wide corridor for potential indirect project effects. Discovery DJ Services provided the centerline via KMZ file format. As a part of this desktop review, a limited field reconnaissance was conducted in proximity to wetland and waterbody crossings. No other field surveys were completed. The purpose of this review is to identify any significant cultural resource constraints associated with the development of the pipeline.

The Signal Ditch and four potentially historic roads (East 152nd Avenue, Holly Street, Riverdale Road, and Quebec Street) are the only cultural resources identified in this desktop review that may be adversely affected by this project. SWCA Environmental Consultants recommends boring the pipeline below these resources to avoid physical damage to the resources. There are no areas with a high potential of containing previously undocumented buried archaeological deposits.

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INTRODUCTION

Discovery DJ Services, LLC, contracted SWCA Environmental Consultants (SWCA) to complete a cultural resources review for 3.92 linear miles of proposed pipeline between Broomfield and Brighton, Adams County, Colorado (the Brighton West Interconnect to Riverdale Interconnect pipeline) (Figure 1). The resources review considered a 400-foot-wide corridor centered on the pipeline for potential direct project effects, and a 1-mile-wide corridor for potential indirect project effects. SWCA conducted a review of cultural resources records for the pipeline, including a file search through the Colorado Office of Archaeology and Historic Preservation (OAHP) COMPASS database on February 9, 2017 (File Search No. 19934). This review was performed to evaluate the nature of the historical occupation of the area and to assess the potential for previously unrecorded cultural resources. Additionally, SWCA reviewed General Land Office (GLO) maps, maps from the U.S. Geological Survey (USGS) U.S. Topo and Historical Topographic Map Collection, and aerial imagery.

OAHP FILE SEARCH RESULTS

The OAHP geographic information systems (GIS) records search identified four previous cultural resource inventories within 1 mile of the project centerline, two of which are within 200 feet of the proposed pipeline centerline. Both of these previous inventories were conducted for projects associated with E-470 (Table 1).

Table 1. Previous Cultural Resource Inventories within 200 Feet of Proposed Centerline

Survey ID	Name	Institution	Authorship
MC.CH.R157	Historic Resources Survey Report: E-470 Segment IV, 120 th Avenue to I-25 North	Hermesen Consultants	Keeley, Gail Hermesen
MC.CH.R3	Final Report of Cultural Resource Inventory for the Proposed E-470 Corridor, Douglas, Arapahoe, Denver, Broomfield, and Adams Counties, Colorado	Colorado Department of Highways	Joyner, Kathryn L.

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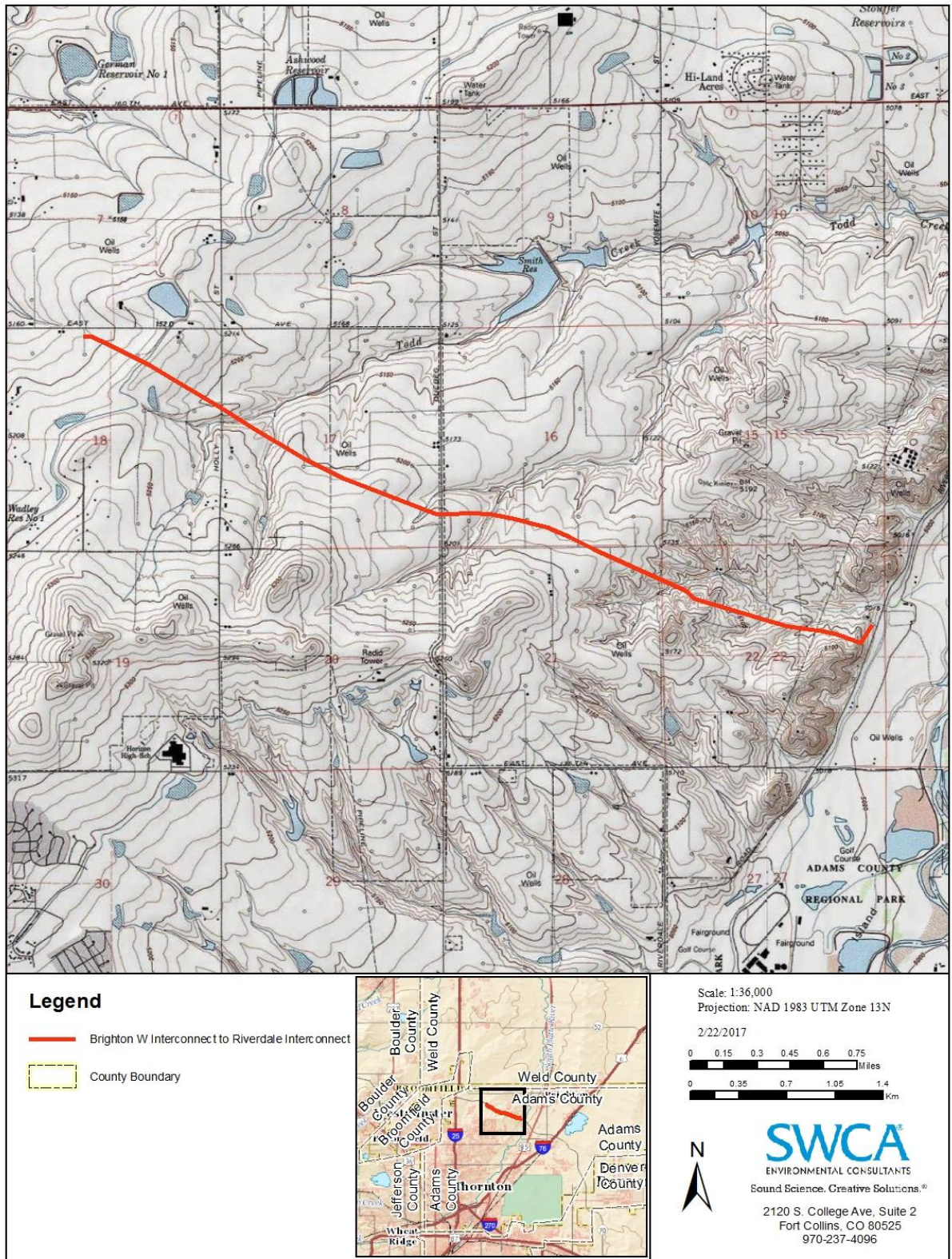


Figure 1. Overview of the proposed Brighton West Interconnect to Riverdale Interconnect pipeline.

The OAHP file search results identified 16 previously recorded sites or site segments within 1 mile of the proposed centerline. Only one segment of the National Register of Historic Places (NRHP)-eligible Signal Ditch (5AM473.2) was mapped in the OAHP records within 200 feet of the proposed centerline, and this segment does not contribute to the eligibility of the Signal Ditch as a whole. Of the 15 other sites between 200 feet and 1 mile from the proposed centerline, sites/segments that are determined or recommended to be eligible for NRHP nomination were selected for further review. These include three resources (Table 2).

Table 2. Previously Recorded NRHP-Eligible Sites between 200 Feet and 1 Mile of Proposed Centerline

Site Number	Description	Eligibility
5AM471.4	German Ditch Segment	Eligible (field), contributing segment
5AM472.1	Union Pacific Railroad, Dent Branch Segment	Eligible (officially), contributing segment
5AM474.1	Brantner Ditch Segment	Eligible (officially)

Considering the subsurface nature of the proposed pipeline and the existing level of modern disturbance in the area, SWCA recommends that the two ditch segments between 200 feet and 1 mile from the proposed centerline will not be adversely affected by the project.

One NRHP-eligible railroad segment is between 200 feet and 1 mile of the proposed project centerline (see Table 2). The Union Pacific Railroad Dent Branch (5AM472.1) lacks significant obstructions between it and the proposed centerline, which is 0.1 mile to the south of this segment. In this area, the pipeline will be constructed in a cultivated field with residential housing developments in the background. Once vegetated, the pipeline right-of-way will not constitute a new prominent disturbance in the area. Given this setting, the railroad segment will not be adversely affected by the project. SWCA therefore recommends that none of the cultural resources identified in the OAHP file search results that are between 200 feet and 1 mile from the proposed centerline will be adversely affected by the project, and no further work is recommended for these resources.

HISTORIC PROPERTY REVIEW

In an attempt to identify significant historic properties not present in the OAHP records, SWCA reviewed historic maps of the project area, including the 1863 GLO plat for Township 1 South, Range 67 West, as well as historic topographic maps containing information mapped between 1938 and 1965 (Bureau of Land Management 2016). The GLO plat depicts no features of potential significance.

Many of the first roads in the region tended to follow property lines and the section lines surveyed by the GLO (Autobee and Dobson-Brown 2003:E-52). In 1885, the Colorado General Assembly passed legislation that allowed county commissioners to declare any section or township line on the public domain a public highway.

Four potentially historic named roads—East 152nd Avenue, Holly Street, Riverdale Road, and Quebec Street—have been mapped in proximity to the proposed centerline (U.S. Census Bureau, Geography Division 2010). These roads have been upgraded and/or paved and remain in use today. Based on the historic topographic maps, Riverdale Road appears to have originally functioned as a service road for the Brantner Ditch (5AM474), but this road does not appear to have been formally recorded. To avoid adverse effects to any of these potentially historically significant roads, SWCA recommends avoidance by boring the pipeline under these roads. Given the amount of modern infrastructure in the immediate vicinity, indirect adverse effects caused by pipeline construction on either side of these roads are unlikely.

Several buildings and canals are mapped on the historic topographic maps within the project vicinity (USGS 1940a, 1940b, 1957, 1965a, 1965b). The canals are still intact and include those documented in the OAHP files search, along with segments that have yet to be formally recorded. Where these corresponded with potential U.S. Army Corps of Engineers jurisdictional waters of the United States, field reconnaissance was performed and the canals/ditches were recorded accordingly (discussed below).

By 1938, several farmsteads had occupied the project vicinity (USGS 1940a, 1940b), and these are represented by mapped buildings on the historic topographic maps. The number of mapped buildings more than doubled by 1965 (USGS 1965a, 1965b). Undocumented historic farm complexes can best be understood within the context of the *Historic Farms and Ranches of Weld County* multiple property listing (Whitacre and Simmons 1990). The historic buildings cannot be entirely confirmed to be extant, but OAHP records for the few that have been formally documented indicate that both NRHP-eligible and not eligible farmsteads are present in the vicinity. Considering the current level of modern visual disturbance in the area, the proposed pipeline is unlikely to result in significant indirect adverse effects to any NRHP-eligible historic buildings in the vicinity of the project. Aside from the ditch segments and scattered historic buildings, the historic map review identified one northeast-trending transmission line on the 1965 topographic map (USGS 1965a). No other potential historic resources were identified in the project area vicinity that are not already identified in the OAHP records.

The land patent search of the five sections crossed by the proposed pipeline identified two that were patented by the Union Pacific Railroad under the Union and Central Railroad Grant of 1862. One section was patented under the 1875 Colorado Enabling Act, and portions of two sections were patented under the Homestead Act of 1862, the Sale-Cash Entry Act of 1820, and the Private Land Claim of 1854.

FIELD RECONNAISSANCE

One segment of the historic Signal Ditch was newly recorded for the current project (5AM473.5). The ditch segment was recorded south from the previously recorded Segment 2, approximately 785 feet to a property line. The Signal Ditch was built ca. 1885, possibly by the Signal Ditch Company (Fareillo 2007). Given this association with early agriculture, the ditch is eligible for NRHP nomination, and this segment contributes to this eligibility. SWCA recommends avoidance of project-related disturbances by boring to place the pipeline at a sufficient depth under this historic ditch. E-470 is located immediately north of this ditch, and

the proposed pipeline parallels E-470 through a formerly cultivated field. In this setting, the disturbance associated with pipeline construction will be temporary and will not result in indirect effects to this historic ditch.

GEOLOGIC FACTORS AFFECTING SITE POTENTIAL

The project area is located in a suburban setting of low rolling hills predominantly in the Todd Creek and South Platte River watersheds. Todd Creek is south and east of the project area, but Dry Creek is crossed by the pipeline. The project area is located in an area of predominantly low relief. Mollisols, Aridisols, and Entisols are present in nearly equal proportions across the project area (Esri and Natural Resources Conservation Service 2014). Mollisols are common on the stable level uplands, while Aridisols are common on the upland slopes. Entisols are exposed primarily along the eastern portion of the proposed pipeline, in the dissected breaks heading toward the South Platte River valley. The upland plains similarly contain a patchwork of prime irrigated farmland to sub-prime farmland (Esri and Natural Resources Conservation Service 2014). The eastern dissected breaks are not suitable farmland. The major factor affecting the preservation of buried archaeological material is the agricultural development throughout all but the eastern 1 mile of the pipeline corridor, where the land is too dissected to support agriculture. In the cultivated uplands, a mantle of soil may have buried archaeological deposits, but cultivation has disturbed the upper soil horizons. The intact Entisols in the eastern breaks area are likely not sufficiently stable to have encased significant cultural deposits. The area around Todd Creek is only associated with minimal amounts of aggraded alluvium (Tweto 1979). Given this depositional setting and extensive cultivation, the project area is interpreted as having a low potential to contain significant buried archaeological deposits.

SUMMARY AND RECOMMENDATIONS

The Signal Ditch and four potentially historic roads (East 152nd Avenue, Holly Street, Riverdale Road, and Quebec Street) are the only cultural resources identified in this desktop review that may be adversely affected by this project. However, all are surrounded by E-470, cultivated fields, and scattered residential developments. As a result, the visual settings of these historic resources have been compromised. SWCA recommends using boring to avoid physical damage to these resources. By adhering to these avoidance measures, construction and operation of the Brighton West Interconnect to Riverdale Interconnect pipeline should result in no adverse effects to significant known historic properties. There are no areas with a high potential of containing previously undocumented buried archaeological deposits. However, in the event that such a discovery is made, SWCA recommends that the resource be formally recorded and evaluated for NRHP eligibility by a permitted archaeologist.

REFERENCES CITED

Autabee, Robert, and Deborah Dobson-Brown

- 2003 *Colorado State Roads and Highways Multiple Property Listing*. National Register of Historic Places Multiple Property Documentation Form. Available at: http://www.historycolorado.org/sites/default/files/files/OAHP/crforms_edumat/pdfs/645.pdf. Accessed November 13, 2015.

Bureau of Land Management

- 2016 Official Website of the U.S. Department of the Interior, Bureau of Land Management General Land Office Records. Online database available at: <http://www.glorerecords.blm.gov/default.aspx>. Accessed February 14, 2017.

Esri and Natural Resources Conservation Service

- 2014 SSURGO Downloader 2014. Available at: <http://landscapeteam.maps.arcgis.com/apps/SimpleViewer/index.html?appid=4dbfecc52f1442eeb368c435251591ec>. Accessed February 12, 2017.

Fareillo, Justin

- 2007 5AM473.1 Site Form. On file at the Colorado Office of Archaeology and Historic Preservation, Denver.

Tweto, Ogden

- 1979 Geologic Map of Colorado. Available at: http://ngmdb.usgs.gov/Prodesc/prodesc_68589.htm. Accessed December 12, 2016.

U.S. Census Bureau, Geography Division

- 2010 Processed TIGER 2010 Streets. National Geospatial Center of Excellence, Fort Worth, Texas. Available at: <https://datagateway.nrcs.usda.gov/>. Accessed April 19, 2014.

U.S. Geological Survey (USGS)

- 1940a Brighton, Colorado. Topographic map, 1:24,000-scale. Available at: <https://geonames.usgs.gov/apex/f?p=262:18:0::NO:RP%2C18::>. Accessed February 12, 2017.
- 1940b Eastlake, Colorado. Topographic map, 1:24,000-scale. Available at: <https://geonames.usgs.gov/apex/f?p=262:18:0::NO:RP%2C18::>. Accessed February 12, 2017.
- 1957 Eastlake, Colorado. Topographic map, 1:24,000-scale. Available at: <https://geonames.usgs.gov/apex/f?p=262:18:0::NO:RP%2C18::>. Accessed February 12, 2017.

1965a Brighton, Colorado. Topographic map, 1:24,000-scale. Available at:
<https://geonames.usgs.gov/apex/f?p=262:18:0::NO:RP%2C18::>. Accessed
February 12, 2017.

1965b Eastlake, Colorado. Topographic map, 1:24,000-scale. Available at:
<https://geonames.usgs.gov/apex/f?p=262:18:0::NO:RP%2C18::>. Accessed
February 12, 2017.

Whitacre, Christine, and R. Laurie Simmons

1990 *Historic Farms and Ranches of Weld County*. National Register of Historic Places
Multiple Property Documentation Form. On file at the Colorado Office of
Archaeology and Historic Preservation, Denver. Available at:
[http://www.historycolorado.org/sites/default/files/files/OAHP/crforms_edumat/pd
fs/619.pdf](http://www.historycolorado.org/sites/default/files/files/OAHP/crforms_edumat/pdfs/619.pdf). Accessed October 1, 2015.

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