



Metcalf Archaeological Consultants, Inc.

Est. 1980

**CRAWFORD CLIPPER DITCH COMPANY: LEVEL II HISTORIC
RESOURCE DOCUMENTATION OF THE CRAWFORD CLIPPER
DITCH—SPURLIN MESA LATERAL (5DT1811.6),
DELTA COUNTY, COLORADO**

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and

Bureau of Land Management—Uncompahgre Field Office

Bureau of Reclamation—Western Colorado Area Office

Natural Resources Conservation Service

Bureau of Land Management

Permit #C-39290 (expires 10/04/2019)

April 2019

Revised July 2019



ABSTRACT

Metcalf Archaeological Consultants, Inc. (Metcalf), under contract to the Crawford Clipper Ditch Company, completed Level II historic resource documentation of the Crawford Clipper Ditch— Spurlin Mesa Lateral (5DT1811.6) in Delta County, Colorado. The Crawford Clipper Ditch Company proposes to modify the extant ditch system by installing buried irrigation pipe, adding new laterals, backfilling portions of the existing ditch, and developing a regulating pond. The Crawford Clipper Ditch is considered eligible to the National Register of Historic Places (NRHP), in consultation with the Colorado State Historic Preservation Office (SHPO), under Criterion A for its association with significant events: the early settlement and development of irrigation agriculture in the areas near Crawford and Hotchkiss, Colorado. Because the Crawford Clipper Ditch Company will destroy or modify a large portion of the historic Spurlin Mesa Lateral as part of its developments, the following tasks were completed as part of the Level II documentation to mitigate adverse effects to this historic property: historic narrative, architectural and feature descriptions, photography, measured drawings, and mapping. These tasks were completed following the Office of Archaeology and Historic Preservation's *Historic Resource Documentation Standards for Level I, II, and III Documentation* (OAHP 2013). Metcalf recommends that this Level II documentation and report is sufficient to fulfill the pre-construction requirements for mitigation of adverse effect.





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INTRODUCTION

Metcalf Archaeological Consultants, Inc. (Metcalf), under contract to the Crawford Clipper Ditch Company (CCDC), completed Level II documentation of a segment of the historic Spurlin Mesa Lateral (5DT1811.6) irrigation ditch, part of the Crawford Clipper Ditch system, in Delta County, Colorado. This segment of ditch is located in Sections 9, 10, 15, 22, and 23 of Township 15 South, Range 92 West. Specifically, the ditch and associated features are located just southeast of Baxter reservoir, between the communities of Hotchkiss and Crawford, Colorado, on lands both privately held and under the jurisdiction of the Bureau of Land Management—Uncompahgre Field Office (BLM—UFO).

The work completed for the CCDC is related to two individual projects: Bureau of Reclamation (Reclamation) Crawford Clipper Center Lateral Piping Project (Project A) and the Natural Resource Conservation Service (NRCS) 4C Ranch Regulating Pond project (Project B). The Reclamation Crawford Clipper Center Lateral Piping Project will entail piping a 4.2-mile stretch of the ditch, adding two new laterals totaling 0.24 miles (1,244.57 feet), and backfilling a 0.96 mile stretch of the existing ditch. The NRCS 4C Ranch Regulating Pond project involves pond development within a 4.5-acre pond footprint and 72.5 acres of mitigation habitat; staging will also occur within the block.

As proposed by the CCDC, the 2.5 miles of the existing ditch on BLM-administered land will be piped within its current historic alignment, a new corridor will be constructed for 1.7 miles on private land, and 0.96 miles of the ditch on private land will be backfilled. Construction of two new laterals is proposed on private land, one measuring 711.4 feet in length and the other 533.2 feet in length.

Given the involvement of both federal lands and federal monies, the project is considered an undertaking and is subject to compliance with federal laws including Section 106 of the National Historic Preservation Act (1966). A historic resource easement is needed from the BLM—UFO for Project A, and federal grant monies are being utilized to fund portions of both Projects A and B. The BLM—UFO and Reclamation are providing agency review on both projects, and they will consult with the State Historic Preservation Office (SHPO) on Project A. The NRCS consulted with SHPO on Project B because they are providing the federal funding for that individual undertaking.

In consultation with the Colorado SHPO, the Crawford Clipper Ditch— Spurlin Mesa Lateral is considered eligible to the National Register of Historic Places (NRHP) under Criterion A for its association with events that had a significant impact on local history, and segment 5DT1811.6 is supporting of that eligibility. The Crawford Clipper Ditch is one of the earliest and largest irrigation ditches in the area and an important part of the water distribution system that originally made irrigation agriculture possible in the Crawford area. Further, the Spurlin Mesa Lateral continues to serve the local community much as it did at the time of its origination in the late 1800s. Agriculture was and continues to be a prominent industry in the area. The site retains a majority of its integrity. It retains its integrity of location as it remains in its general original location; the southern portion of the ditch segment is depicted on the 1885 Original Survey GLO Plat for T15S, R92W (Bureau of Land Management 1885) (Figure 1), and the northern portion is more than likely the original alignment as there is no obvious evidence of re-routing. It retains its integrity of design as it still functions as originally intended and as the



original layout/trajectory can still be discerned. Although there have been some minor modern upgrades (new headgates, culverts, etc.), the integrities of workmanship and materials are predominantly intact as the ditch still displays much of its original construction character as an earthen ditch. The integrities of feeling and setting are modestly compromised by the visible and audible modern agricultural and domestic developments in the surrounding area. The integrity of association is maintained as the ditch remains part of the regionally important water distribution system that originally made irrigation agriculture possible in the Crawford area.

Following Metcalf's initial inventory, recording, and reporting efforts in 2017 and 2018 (Krasnow 2018), a Memorandum of Agreement (MOA) was signed by stakeholders, including the Western Colorado Area Office, Reclamation; the BLM-UFO; the CCDC; and the Colorado SHPO. The MOA stipulates mitigation efforts, largely consisting of Level II documentation of site 5FT1811.6, that must be carried out in order for the project to proceed.

Segment 5DT1811.6 of the Spurlin Mesa Lateral irrigation ditch was documented to Level II standards to mitigate adverse effects to this historic property because the CCDC will destroy or modify these features as part of the proposed undertaking. Level II documentation consists of an architectural and historic narrative including relevant contexts, digital black and white photography, and basic measured drawings (OAHP 2013). The purpose of the study reported here is to facilitate the BLM's and Reclamation's compliance with Section 106 of the National Historic Preservation Act (NHPA) and other applicable federal legislation and regulations arising from the project's need for federal permitting. Archival photographs of the site are located in Appendix A.

METHODS

Fieldwork for this project was performed on June 27 and 28, 2017, by Metcalf archaeologists Kim Kintz and Natasha Krasnow; on May 9, 2018, by Krasnow and Aaron Whittenburg; and on January 31, 2019, by Whittenburg and Garrett Williams. Ms. Kintz served as Principal Investigator. Jesse Clark created the site map in ESRI ArcMap 10.5. Jenean Roberts drafted the ditch measured drawings in Corel Draw X5. No artifacts were collected. All project administrative records, field notes, drawings, digital photos, maps, and GPS data are stored at Metcalf's Office in Grand Junction, Colorado. Work was conducted under BLM Permit No. C-39290 (expires 10/04/2019). The following tasks were completed as part of the Level II documentation: historic narrative, architectural and feature descriptions, photography, measured drawings, and mapping. These tasks were completed following the Office of Archaeology and Historic Preservation's *Historic Resource Documentation Standards for Level I, II, and III Documentation* (OAHP 2013).

The entirety of segment 5DT1811.6 was explored and documented in the field during the Class III inventory in 2017 and 2018 (Krasnow 2018). During those times, features were identified, and descriptive and dimensional data specific to each feature were collected. Field mapping was completed during the Class III effort with the use of handheld Trimble GeoExplorer 6000 GNSS units with real-time WAAS correction generally in the 1 m to 2 m range and post-processed correction to sub-meter. In addition, archival research was conducted, and historic topographic maps and aerial imagery were used to complement the field data collection. Digital photographs of the features were taken per the standards outlined by OAHP (2013:3-9). Overviews of the site and its setting were also taken. A Fujifilm Finepix XP10SE



camera with a Fujinon 5x optical zoom lens was used. Photos were taken at 12.2 megapixel setting and images were output as color JPEG files. The color JPEG files were converted to black and white using Adobe's Photoshop Express software. In 2019, measured drawings were made at four representative locations along the ditch. These profiles were drawn using detailed measurements and standard graph paper to represent the ditch cross-section.

HISTORIC CONTEXT

The Crawford Clipper Ditch system is associated with the initial irrigation and agricultural pursuits in the early 1880s in the area between the North Fork Gunnison River, which flows just south of the community of Hotchkiss, Colorado, and the Smith Fork, a tributary of the North Fork Gunnison River, which flows through the community of Crawford, Colorado (Figure 1). As part of prior cultural resource projects in the immediate area, Alpine Archaeological Consultants, Inc. (Alpine) conducted extensive research regarding the Crawford Clipper Ditch system, including the Spurlin Mesa Lateral (Hoose and Goldman 2012; Hoose 2013; Hoose 2014). Alpine's historic narrative is summarized below:

Work on the Crawford Clipper Ditch began on April 4, 1884, according to the location certificate recorded on October 19, 1885 by the Crawford Clipper Ditch Company. The ditch was 8 ft. wide at the bottom, 10 ft. wide at the top, and 2 ft. deep with a carrying capacity of 83.52 cfs. Water for the ditch came from the Smith Fork, and its headgate was mapped by referencing its position relative to the summit of Lands End and the Horn of Saddle Mountain (Delta County Courthouse, County Clerk's Office, Ditch Plat Bk. 2, pg. 7 and Bk. 9, pg. 250). The Crawford Clipper Ditch Company was incorporated on November 16, 1885 with a 20-year life and capital of \$3,200 in 32 shares at \$100 per share. Initial shareholders included owners Swan J. Alten, Peter Olson, Henry Grant, and Directors Harry Bopp and Olaf Olson. The place of business was at the house of Henry Grant, Justice of the Peace (Delta County Courthouse, County Clerk's Office, Ditch Plat Bk. 9, pg. 250-251).

Amendments to the Articles of Incorporation were submitted on October 14, 1905 to change the place of business to Crawford by President D. M. Brock and Secretary J. D. Smith (Delta County Courthouse, County Clerk's Office, No. 30554); an extension of the life of the corporation for an additional 20 years was filed on November 16, 1905 (Delta County Courthouse, County Clerk's Office, No. 30555). On July 18, 1925, an amendment was filed to change the Crawford Clipper Ditch Company to a non-profit, mutual ditch company by President Swan Linman and Secretary William Hopkins, and another 20-year extension of corporate life was filed on November 3, 1925 (Delta County Courthouse, County Clerk's Office, No. 128013 and 128014). An Articles of Amendment submitted by the company, recorded on December 14, 1961 by President Henry Kraai and Secretary Clarence E. Drexel, describes four lateral ditches of the Crawford Clipper Ditch system: the Zanni, Spurlin Mesa, Nowland, and Olson laterals. The Spurlin Mesa Lateral is described as beginning at the Mill Divider. It then ran northwestward to the Jordan Divider, continued generally north and northwest to the Baxter Divider, and crossed SH 92 to the Drake-Le Valley Divider in the southeast $\frac{1}{4}$ of the northeast $\frac{1}{4}$ of Section 4. A division in the lateral began at the Baxter Divider and stayed west of SH 92 and continued generally northwest through Section 4 into Section 33, and then northwest and west to the Nielsen-Smith Divider (Delta County Courthouse, County Clerk's Office, No. 300147).



probably correspond with extensions of the ditch system. The current iteration of the ditch is an element of Reclamation's Smith Fork Project. The entire Smith Fork Project was completed in 1962. Incorporation of the ditch as part of the Smith Fork Project changed the source of the water to Crawford Reservoir, making water delivery more reliable.

The Crawford Clipper Ditch has been recommended to be eligible for inclusion on the NRHP under Criterion A for its association with events that had a significant impact on history. Namely, it is a surviving portion of one of the earliest and largest local water distribution systems that made irrigation agriculture possible in the areas between Hotchkiss and Crawford. According to water rights records, the Spurlin Mesa Lateral has been an element of the overall Crawford Clipper Ditch system since its inception. Agriculture was and continues to be a prominent industry in the area.

ARCHITECTURAL AND FEATURE DESCRIPTIONS

As documented by Metcalf during fieldwork in 2017 and 2018, segment 5DT1811.6 of the Crawford Clipper Ditch—Spurlin Mesa Lateral consists of nearly 4.5 miles of earthen irrigation ditch and eight associated features. This segment is bordered on its southern end by previously recorded segment 5DT1811.1, and on its northern end by previously recorded segment 5DT1811.2, both of which are also considered to be supporting of the NRHP eligibility of the broader ditch system. The following information is taken verbatim from Krasnow's (2018:12-14) inventory report.

Spurlin Mesa Lateral segment 5DT1811.6 is located on Spurlin Mesa in an area of gently rolling hills with views of the West Elk Mountain Range rising to the east. Vegetation bordering the ditch includes cottonwood, tamarisk, juniper, willow, milkweed, fourwing saltbush, greasewood, sagebrush, skunk bush, puzzle grass, halogeton, some yucca, and various grasses. The nearest natural water source is Cottonwood Creek, which lies a mere $\frac{1}{4}$ mile northeast from the northern terminus of the segment. Baxter Reservoir is an approximate $\frac{1}{2}$ mile northwest of the north terminus. Soils are generally a light brown, silty clay with low density of tabular/angular siltstone and shale gravels of colluvial and residual deposition. There are some areas of soil with darker gray, shale-y staining.

This segment of the Spurlin Mesa Lateral is part of the historic Crawford Clipper Ditch system. The segment runs on a generally northwest/southeast alignment that traverses private property and Bureau of Land Management lands administered by the Uncompahgre Field Office (BLM—UFO). The majority of the segment is on BLM—UFO land with shorter stretches near the northern and southern ends of the segment on private property. The segment's southern end overlaps with the previously recorded segment 5DT1811.1. From here moving north, the ditch meanders to the northwest across BLM lands to a small basin that is drained by a northeast/southwest trending intermittent tributary of Cottonwood Creek to the north. At this point, the ditch ceases its meandering and heads on a straighter alignment north to private property. From here, the segment again begins to run generally northwest, back through a corner of BLM land, before re-entering private property where it continues winding to the northwest before terminating where it meets up with the southern end of previously recorded



segment 5DT1811.2 just southeast of Baxter Reservoir (there is a short length of overlap between the two segments).

The segment passes through varying terrain. On the BLM-managed lands, it winds through adobe badlands with generally moderate vegetation density along both banks. There are stretches of the ditch, however, that are lined on one or both sides with very dense vegetation. The southern approximate ¼ mile of this portion of the ditch, in the northwest quarter of Section 23, is surrounded by thick willow and grasses on both sides (this portion bounces from BLM land to private land and back onto BLM land). The stretch beginning near the center of Section 15 (T15S R92W) and running north to the northern boundary of the section is also lined with thick, impenetrable vegetation on its east bank, and the east bank of this section is cut into the hill slope with a cleanout berm present. A stretch of the segment present in the southeast quarter of Section 15 is heavily incised into shale sediments. On the privately held lands, the ditch segment runs through maintained agricultural and ranching lands. Vegetation density along the segment on private lands is generally low to moderate, but short spans the segment in the southwest quarter of Section 10 are surrounded by dense and impenetrable willow, sage, and dried and piled up tumble weeds. The width of the ditch varies along its course between 5 and 12 feet.

Eight features are associated with segment 5DT1811.6 (Table 1) and include both modern and historic features. Modern upgrades to the ditch segment include: a new headgate/chamber (Feature 1; installed in 2014) and an intake/channel toward the north end of the recorded segment (Feature 3; east of Hwy 92). The northern end of the segment abuts with 5DT1811.2 where the ditch has been piped in recent years (post-2012).



Table 1. List and description of features associated with 5DT1811.6.

Feature No.	Feature Type	Dimensions (feet/inches)	Description
1	Modern headgate/chamber/intake	~ 15' E/W x ~5' N/S	Headgate/chamber/intake east of the main ditch channel that has recently been replaced so is now of modern construction. There are two gates; straddles the entire width of the ditch. The headgate chamber and diversion channels extend north for ~15' where the water is channeled in to a subsurface pipe.
2	Debris pile (historic)	~50' N/S x ~20' E/W	Debris pile of materials from the demolition of the historic headgate that was recently replaced (Feature 1). The pile includes fragments of PVC piping, rebar, old metal piping, an original headgate hand crank, milled lumber, and miscellaneous scrap metal.
3	Modern intake/channel construction	~10' x 10'	Modern concrete slabs with perpendicular "I" shaped metal channel supports.



Feature No.	Feature Type	Dimensions (feet/inches)	Description
4	Culvert	~5' diameter	Corrugated metal culvert (unknown age) that channels the ditch under SH 92.
5	Conglomerate Concrete Conduit Support (historic)	~11' x 5'	Concrete/cement support. The rounded area on top of the support where a large pipe/conduit would have rested measures ~34". On the opposite side of the ditch from this feature (east of the feature), a collapsed wooden flume can be seen extending from the drainage bottom (below/east of the ditch) upslope to the next knoll and to a traverse cut along the slope of the hill (possibly a lateral or another ditch).
6	Culvert	~3' diameter	Feature 6 consists of a black, corrugated plastic culvert that appears to be an updated/modern replacement for what was likely originally used. The culvert pipes the ditch under a bladed, graveled road that provides access to a private sheep farm (5DT2102.1). As the road is historic (it is present on the Hotchkiss 1965 (PR1979) USGS topographic map) it is presumed that the culvert is historic as well, though as mentioned, it seems to have been upgraded/replaced.
7	Gate/ Chamber System	~25' E/W x ~15' N/S (encompasses all the elements of the feature)	Feature 7 consists of a diversion control gate and chamber system. The ditch channel is lined on both sides with conglomerate concrete that is covered in lichens. On the west side of the channel, the concrete runs ~9.5' long and is 5" thick. On the east side of the channel, the concrete runs ~12' long and is also 5" thick. A wooden plank, measuring 7"2" x 1", spans the ditch and is bolted into the concrete lining on both sides. The concrete lining the east side of the channel includes a crank operated gate that controls the release of water into a plastic pipe that feeds water into a small diversion that appears to provide flood irrigation to a field to the east (see Feature 8 below). The pipe is 1' in diameter, runs underground, and is covered with conglomerate concrete that is covered in lichens. The crank controlling the gate appears to be original while the surrounding support structure has been upgraded to galvanized metal. Also on the east side of the channel, immediately upstream from the crank, is a rectangular chamber with obviously more recent concrete walls. The chamber measures ~4' N/S x 3.5' E/W x ~5' deep. A wooden plank fits into a slot on the west side of the chamber, dividing the chamber from the ditch channel; it appears that removing the plank is what allows water to fill the chamber. A plastic pipe, ~15' long and 1' in diameter, funnels water from the chamber underground and to the east into a field. Note that a small number of miscellaneous pieces of milled lumber and scrap metal are scattered in the area.



Feature No.	Feature Type	Dimensions (feet/inches)	Description
8	Diversion channel	Between 1'-2' wide x 1,243' (0.24mi) in length	Feature 8 consists of a small diversion channel that runs adjacent to the main ditch channel on its east side. The diversion channel appears to serve a field (flood irrigation?) located to its east. Near its south end, the channel includes a metal flow gauge that appears to be modern. The flow of water into the diversion is controlled by a gate that is part of Feature 7 (described above). The diversion channel was flowing for most of its course at the time of recording; water dissipated from the channel by the time it reached its northern terminus.

In addition to detailed documentation during inventory, Metcalf also prepared measured drawings at four locations along the ditch segment as part of Level II documentation (Figure 2 through Figure 5).

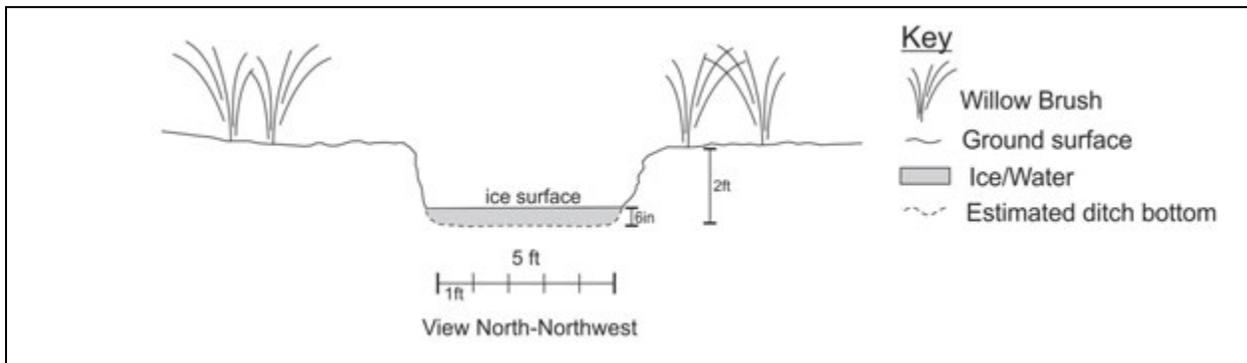


Figure 2. Spurlin Mesa Lateral cross-section #1.

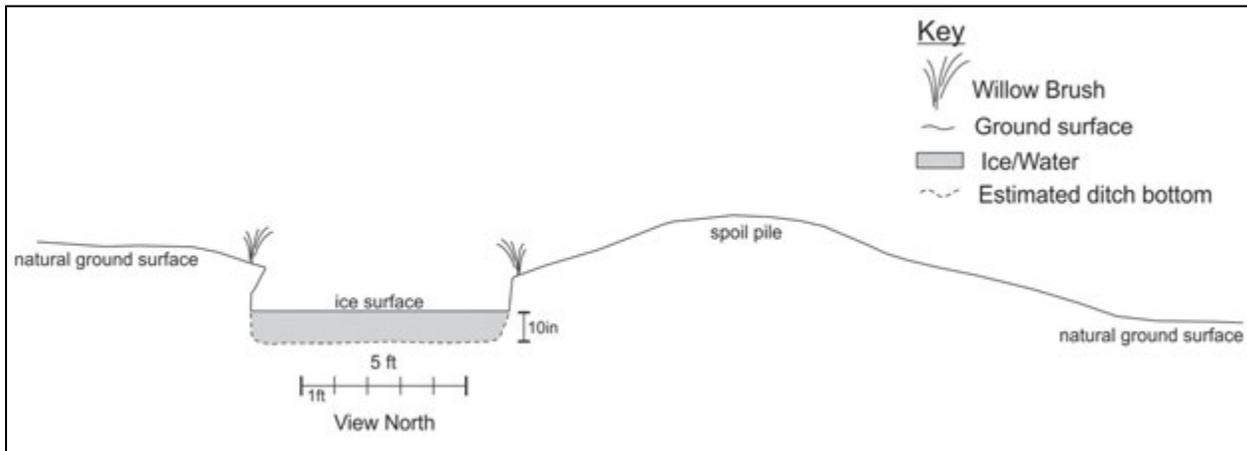


Figure 3. Spurlin Mesa Lateral cross-section #2.



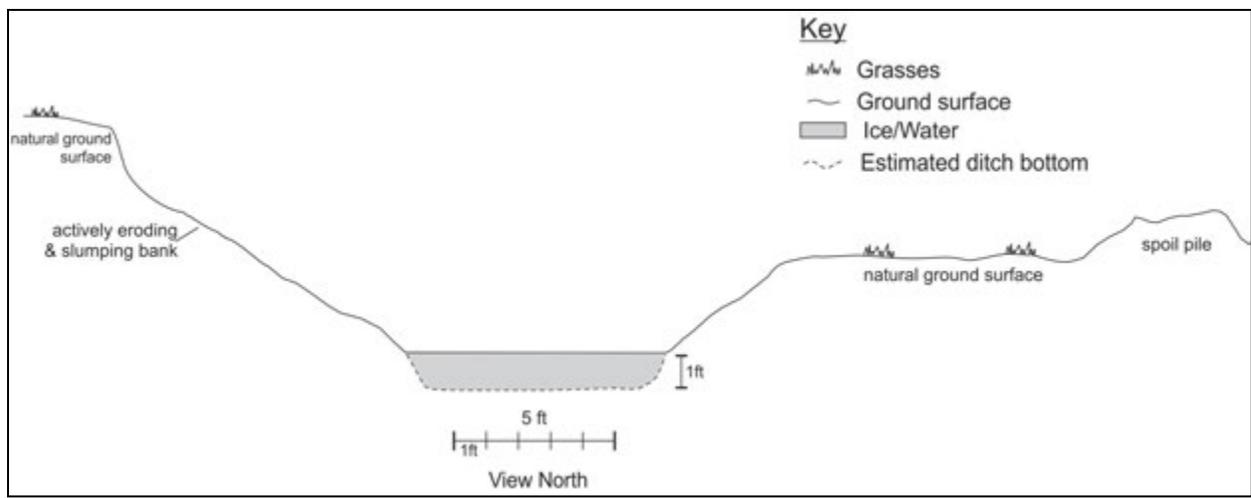


Figure 4. Spurlin Mesa Lateral cross-section #3.

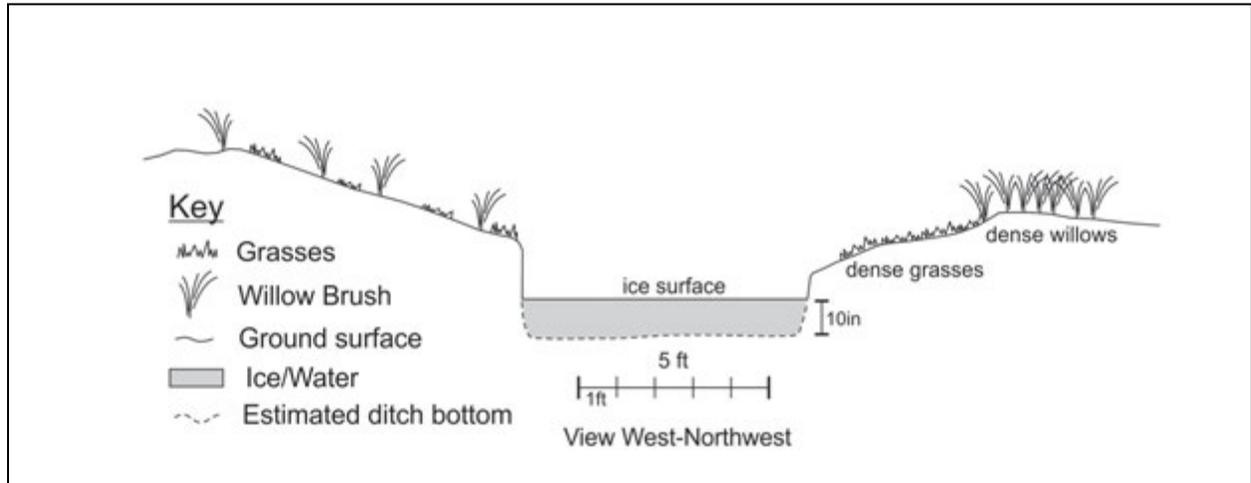


Figure 5. Spurlin Mesa Lateral cross-section #4.

CONCLUSIONS AND SUMMARY

Metcalf completed Level II documentation for site 5DT1811.6, a segment of the historic Crawford Clipper Ditch—Spurlin Mesa Lateral earthen irrigation ditch. The Crawford Clipper Ditch Company proposes to modify the extant ditch system by installing buried irrigation pipe, adding new laterals, backfilling portions of the existing ditch, and developing a regulating pond.

The ditch and associated features were documented to Level II standards to mitigate adverse effects to this historic property because the Crawford Clipper Ditch Company will destroy or modify these features as part of their piping project. Level II documentation consists of an architectural and historic narrative including relevant contexts, digital black and white photography, and basic measured drawings. The purpose of the study reported here is to facilitate Reclamation’s and BLM’s compliance with Section 106 of the National Historic Preservation Act (NHPA) and other applicable federal legislation and regulations arising from the project’s need for federal permitting. Archival photographs of the features are located in Appendix A.

Metcalf recommends that the Level II documentation reported herein is sufficient to fulfill the pre-construction requirements for mitigation of adverse effect, as outlined in the project's MOA. No further work is recommended.



REFERENCES CITED

Bureau of Land Management

1885 General Land Office Plat for T15S/R92W. Electronic document, <http://www.glorerecords.blm.gov/>, accessed on August 07, 2017.

Hoose, Tracy

2013 *Cultural Resource Inventory of the Spurlin Mesa Lateral of the Crawford Clipper Ditch Delta County, Colorado*. Alpine Archaeological Consultants, Inc. Prepared for Crawford Clipper Ditch Company, Crawford, Colorado and Bureau of Reclamation Western Colorado Office, Grand Junction, Colorado.

2014 Colorado Cultural Resource Survey Forms for 5DT1811.3, Zanni Lateral of the Crawford Clipper Ditch. Alpine Archaeological Consultants, Inc. On file at the Colorado Office of Archaeology and Historic Preservation (OAHP).

Hoose, Tracy and Aaron Goldman

2012 Colorado Cultural Resource Survey Forms for 5DT1811.2, Spurlin Mesa Lateral of the Crawford Clipper Ditch. Alpine Archaeological Consultants, Inc. On file at the Colorado Office of Archaeology and Historic Preservation (OAHP).

Krasnow, Natasha

2018 *Crawford Clipper Ditch Company: A Class III Cultural Resources Inventory of the Spurlin Mesa Lateral in Delta County, Colorado* (OAHP# DT.LM.R78; BLM UFO# 18UN-03). Prepared by Metcalf Archaeological Consultants, Inc. Prepared for the Crawford Clipper Ditch Company.

Office of Archaeology and Historic Preservation

2013 *Historic Resource Documentation: Standards for Level I, II, and III Documentation*. http://legacy.historycolorado.org/sites/default/files/files/OAHP/crforms_edumat/pdfs/15952013.pdf, accessed February 20, 2019.



APPENDIX A: Archival Quality Photographs and Photograph Log

Photo Log

Property Name: Crawford Clipper Ditch—Spurlin Mesa Lateral (5DT1811.6)

Property Location: Sections 9, 10, 15, 22, 23 in T15S, R92W, Delta County, Colorado

Photographer: Various – see table, Metcalf Archaeological Consultants, Inc.

Date Taken: Various – see table

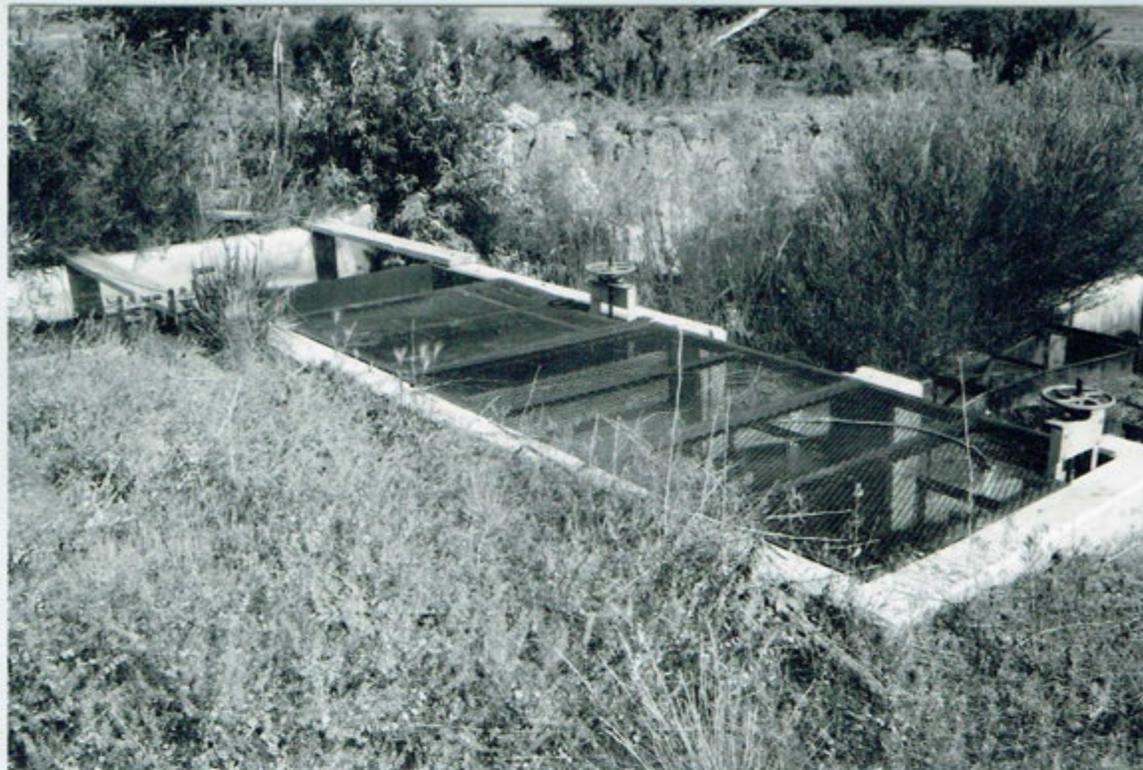
Digital copies located at: Office of Archaeology and Historic Preservation, 1200 Broadway, Denver, CO 80203

MAP ID	Photo #	Date	Direction	Photographer	Description
1	Roll 17-550, image 182	06/27/2017	Northwest	K. Kintz	Overview of Feature 1, upgraded/modern headgate with diversion chamber
2	Roll 17-550, image 139	06/27/2017	North	K. Kintz	Overview of narrow portion of ditch channel toward southern end of segment
3	Roll 19-225, image 3	01/31/2019	North/ Northwest	A. Whittenburg	Ditch cross-section #1
4	Roll 17-550, image 141	06/27/2017	North	K. Kintz	Overview of ditch channel, with 2x4 makeshift footbridge
5	Roll 17-550, image 144	06/27/2017	West	K. Kintz	Overview of ditch channel, with dense vegetation along the banks
6	Roll 17-550, image 146	06/27/2017	Southwest	K. Kintz	Overview of ditch channel and cutbank where the ditch enters the adobe badlands
7	Roll 19-225, image 4	01/31/2019	North	A. Whittenburg	Ditch cross-section #2
8	Roll 17-550, image 150	06/27/2017	North/ Northwest	K. Kintz	Overview, ditch channel and berm, decreasing vegetation density to north
9	Roll 17-550, image 152	06/27/2017	West	K. Kintz	Overview, ditch channel and footbridge
10	Roll 17-550, image 157	06/27/2017	South	K. Kintz	Overview, ditch channel with access road to right
11	Roll 17-550, image 155	06/27/2017	North	K. Kintz	Overview, ditch channel, showing increasing erosion and incision
12	Roll 17-550, image 156	06/27/2017	South	K. Kintz	Overview, showing steep bank and deeply incised channel
13	Roll 17-550, image 195	06/28/2017	East	K. Kintz	Overview, bend in ditch channel and eroding banks
14	Roll 19-225, image 2	01/31/2019	North	A. Whittenburg	Ditch cross-section #3
15	Roll 17-550, image 198	06/28/2017	South	K. Kintz	Overview, ditch channel to right and spoil pile/berm to left
16	Roll 17-550, image 214	06/28/2017	Southeast	N. Krasnow	Feature 5, concrete support, scale at 5 ft, with ditch visible in background
17	Roll 17-550, image 215	06/28/2017	Northwest	N. Krasnow	Feature 5, concrete support, scale at 5 ft
18	Roll 17-550, image 213	06/28/2017	South	K. Kintz	Overview, ditch channel with access road to right
19	Roll 18-250, image 597	05/09/2018	South/ Southeast	N. Krasnow	Overview of ditch channel where it widens to approximately 12 ft
20	Roll 18-250, image 601	05/09/2018	South	A. Whittenburg	Overview, north opening of Feature 6, black plastic culvert



MAP ID	Photo #	Date	Direction	Photographer	Description
21	Roll 18-250, image 602	05/09/2018	North	A. Whittenburg	Overview, ditch channel; (Feature 6, culvert, at lower left)
22	Roll 18-250, image 606	05/09/2018	Northwest	A. Whittenburg	Overview of ditch channel with breach, just north of Feature 6
23	Roll 18-250, image 610	05/09/2018	North	A. Whittenburg	Feature 7, diversion gate and chamber system, with person (5'6") for scale
24	Roll 18-250, image 607	05/09/2018	South	A. Whittenburg	Feature 7, diversion gate and chamber system, with person (5'6") for scale
25	Roll 18-250, image 611	05/09/2018	North	A. Whittenburg	Feature 8, diversion channel with flow gauge in distance
26	Roll 18-250, image 608	05/09/2018	South	A. Whittenburg	Feature 8, diversion channel with flow gauge in foreground
27	Roll 18-250, image 613	05/09/2018	West/ Northwest	A. Whittenburg	Overview, ditch channel (left) and Feature 8, diversion channel (right)
28	Roll 17-550, image 206	06/28/2017	East	K. Kintz	Overview, ditch channel toward northern terminus near Highway 92
29	Roll 17-550, image 207	06/28/2017	Southeast	K. Kintz	Overview of Feature 3, modern concrete and steel intake channel
30	Roll 19-225, image 5	01/31/2019	West	A. Whittenburg	Ditch cross-section #4; (Feature 4, culvert, visible to back)
31	Roll 17-550, image 210	06/28/2017	North	K. Kintz	Overview, north end of segment where ditch is currently piped underground at the red structure near center of photo





**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 17-550, image 182

**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 17-550, image 139



**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 19-225, image 3

**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 17-550, image 141



**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 17-550, image 144

**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 17-550, image 146



**Crawford Clipper Ditch -
Spurlin Mesa Lateral**

5DT.1811.6

Roll 19-225, image 4

**Crawford Clipper Ditch -
Spurlin Mesa Lateral**

5DT.1811.6

Roll 17-550, image 150



**Crawford Clipper Ditch -
Spurlin Mesa Lateral**

5DT.1811.6

Roll 17-550, image 152

**Crawford Clipper Ditch -
Spurlin Mesa Lateral**

5DT.1811.6

Roll 17-550, image 157



**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 17-550, image 155

**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 17-550, image 156



**Crawford Clipper Ditch -
Spurlin Mesa Lateral**

5DT.1811.6

Roll 17-550, image 195

**Crawford Clipper Ditch -
Spurlin Mesa Lateral**

5DT.1811.6

Roll 19-225, image 2



**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 17-550, image 198

**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 17-550, image 214



**Crawford Clipper Ditch -
Spurlin Mesa Lateral**

5DT.1811.6

Roll 17-550, image 215

**Crawford Clipper Ditch -
Spurlin Mesa Lateral**

5DT.1811.6

Roll 17-550, image 213



**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

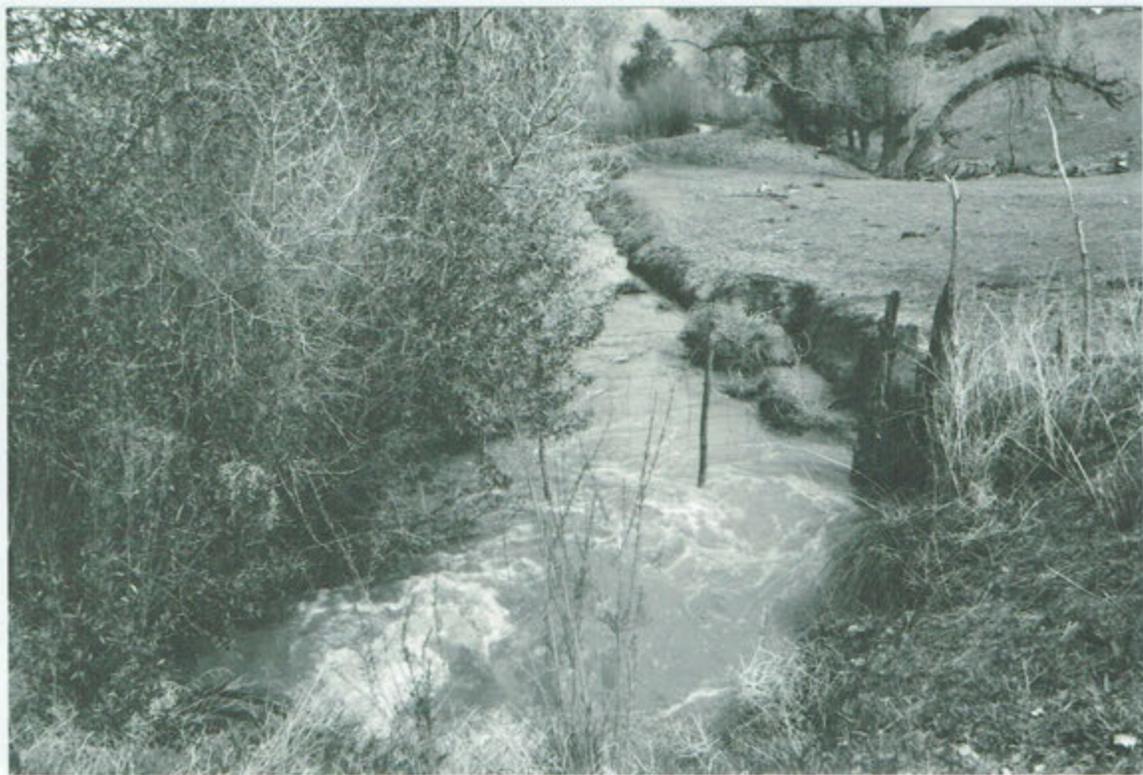
5DT.1811.6

Roll 18-250, image 597

**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 18-250, image 601



**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 18-250, image 602

**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 18-250, image 606



**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 18-250, image 610

**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 18-250, image 607



**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 18-250, image 611

**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 18-250, image 608



**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 18-250, image 613

**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 17-550, image 206



**Crawford Clipper Ditch -
Spurlin Mesa Lateral**

5DT.1811.6

Roll 17-550, image 207

**Crawford Clipper Ditch -
Spurlin Mesa Lateral**

5DT.1811.6

Roll 19-225, image 5



**Crawford Clipper Ditch –
Spurlin Mesa Lateral**

5DT.1811.6

Roll 17-550, image 210

APPENDIX B

Crawford Clipper Ditch—Spurlin Mesa Lateral (5DT1811.6) site map





