

Fort Collins, Colorado

---

**JOSH AMES DITCH**  
**CULTURAL RESOURCE ANALYSIS OF THE**  
**HEADGATES, DIVERSION STRUCTURE &**  
**SEGMENTS WEST OF COLLEGE AVE.**  
**(T7N-R69W, Sections 2 & 3)**

---



prepared for

**US Army Corps of Engineers**  
**Colorado State Historic Preservation Office**  
**City of Fort Collins**

completed by

**Tatanka Historical Associates, Inc.**

P.O. Box 1909  
Fort Collins, CO 80522  
tatanka@verinet.com  
970.221.1095

25 June 2013

(USACE File #NWO-2013-1109-DEN)  
(CO OAHPS Sites 5LR.1829.4 & 5LR.1829.5)

# Tatanka Historical Associates Inc.



P.O. Box 1909  
Fort Collins, Colorado 80522  
tatanka@verinet.com  
970.221.1095

25 June 2013

Matthew Montgomery  
US Army Corps of Engineers  
Denver Regulatory Office  
9307 S. Wadsworth Blvd.  
Littleton, CO 80128-6901

Project: Josh Ames Ditch Headgate & Segment  
Fort Collins, Larimer County, CO  
Cultural Resources Analysis

Dear Mr. Montgomery,

Tatanka Historical Associates has completed its documentation and analysis of the Josh Ames Ditch, as described below, within the defined Area of Potential Effect for this project. This work involved visiting the resource to complete field documentation, completing the necessary archival research, and preparing the written materials included with this report.

Because the length of the ditch west of College Ave. is separated physically into two disconnected segments, these were documented as two interrelated but separate resources. Inventory forms utilizing distinct site numbers were prepared for each segment, along with their associated structures. This project report, however, jointly covers both of these segments of the ditch.

Please let me know if any additional information will be required following USACE and SHPO review.

Sincerely,

A handwritten signature in black ink that reads "R. D. Sladek". The letters are stylized and connected.

Ron D. Sladek  
President

## TABLE OF CONTENTS

Introduction.....	1
Project Area.....	1
Figure 1 – Locations of Segments USGS Fort Collins 7.5' Quadrangle .....	5
Figure 2 – Resource Diagram..... 1966 Diversion Dam, Headgate & Pipeline ( <b>5LR.1829.4</b> )	6
Figure 3 – Resource Diagram..... 1867 Headgate and Ditch Segment ( <b>5LR.1829.5</b> )	7
Research Design & Methods.....	8
Historic Context.....	9
Results.....	17
Recommendations.....	20
Bibliography.....	21
Appendix A - Survey Log .....	25

## **INTRODUCTION**

This project originated in April 2013, when the City of Fort Collins engaged Tatanka Historical Associates Inc. to complete Section 106 (National Historic Preservation Act) documentation and analysis on two segments of the historic Josh Ames Ditch.

The two segments of the ditch are located north of the Cache la Poudre River in and close to the City of Fort Collins. At this time, the city's Natural Areas Program is planning an ecological restoration project for the North Shields Ponds Natural Area. This may involve removal of the Josh Ames Ditch diversion dam and headgate located along the river in Section 3, Township 7 North-Range 69 West. Because the ditch is considered a tributary to the Cache la Poudre River, alterations to the resource will require approval of a Section 404 (Clean Water Act) permit from the US Army Corps of Engineers (USACE).

This report and the accompanying site forms and photographs fulfill the submittal requirements of USACE and the Colorado State Historic Preservation Office (SHPO). The City of Fort Collins provided funding for the project, and is separately handling submittal of the Section 404 permit application.

## **PROJECT AREA**

This study involves two separate but previously connected segments of the Josh Ames Ditch. Both were included for completeness of documentation and analysis of the historically interconnected ditch resources located along its upper reach west of College Ave. The Josh Ames Ditch is found on the high plains of northeastern Colorado, along the Cache la Poudre River corridor where it passes through and close to the City of Fort Collins. Both segments (5LR.1829.4 & 5LR.1829.5) included in this study are located within publicly-owned lands along the river corridor. While the eastern segment passes through acreage used as natural areas and a park owned by the City of Fort Collins, the western segment runs through lands owned by Larimer County. Only part of this western segment is accessible to the public.

The Poudre River Trail, along with other public trails that run along the north side of the river, provide views of the ditch segments and related features. Surrounding acreage is primarily occupied by the river, ponds, an abandoned meander, fields of prairie grass, and mature trees and shrubs. Developed properties that hold buildings are located along Shields St. and College Ave., although these are mostly out of view of the historic resources. Due to these characteristics, rural buffers surround the ditch segments in all directions.

**1966 Diversion Dam, Headgate & Pipeline (5LR.1829.4)** – This segment of the Josh Ames Ditch is located at an elevation of 4,990' above sea level on land that is owned by Larimer County. It is situated in the SE¼ of the NE¼ of Section 3, Township 7 North, Range 69 West. This corresponds to the northwest quadrant of the intersection of the Cache la Poudre River and N. Shields St. in Larimer County, Colorado (just outside of the Fort Collins municipal boundaries). The northeast corner of this triangular parcel holds a commercial building and parking lot used by Larimer County Emergency Services at 1303 N. Shields St. Due to the dense vegetation that occupies the western area of the property, the building is not within sight of the diversion dam and headgate.

The entire segment, including the buried pipeline, is approximately 400 meters (one-quarter mile) long, and runs from the diversion dam on the west to Shields St. on the east. (*see Figures 1 & 2*) Defined laterally by a buffer of 30 meters (measured from the segment's center line), the segment includes the diversion dam, headgate structure, and the buried pipeline. These boundaries form the Area of Potential Effect (APE). The area within this APE is 2.96 acres.

The diversion dam and headgate are situated within the main channel and adjacent to the north bank of the Cache la Poudre River. At the base of the headgate is the opening to the pipeline. Although these structures are in good condition, the headgate is no longer operable and the pipeline no longer carries water from the river to the meander and original headgate downstream (5LR.1829.5).

Spanning the width of the river from bank to bank, the diversion dam consists of a low concrete wall with a flat top and sides. The river's flow pools upstream of the low dam wall and then pours over the top, a drop of only a few feet into the rock-filled bed below. The dam diverts the pooled water toward the headgate structure along the river's north bank.

The headgate is a large three-sided concrete block-like structure that is similar in construction to a bridge abutment and rises about twelve feet above the riverbed. The face of this structure sits parallel to the river, with wingwalls angling back into the riverbank to the east and west. Behind this, the concretework retains the raised riverbank, which rises to the top of the structure. The top of the headgate is accessible on foot from the North Shields Ponds trail. Inscribed into the flat upper surface of the concrete are the year 1966 and the letters FFL. The meaning of this acronym is currently unknown.

About four feet into the river in front of the headgate's face is a tall narrow concrete wall that rises from the north end of the diversion dam. This is connected to the main headgate wall by a wood and metal platform at the top. The platform provides access to two headgate controls located there. One of these gates controlled river flow between the main headgate structure and the wall that projects upward from the diversion dam. Aligned with the diversion dam, this gate increased pooling in front of the main headgate and pipeline

opening, passing excess water back into the river channel. The other gate controlled the flow of water into the corrugated metal pipeline. The shared opening to these gates is protected by a grizzly, or trash grate, formed by at least seven short metal pipes that are mounted horizontally across the water.

The metal gate frameworks rise up the concrete walls and project several feet above the structure. At the top of these frameworks are the mechanical controls for the two gates. While the control wheel is missing from the gate that ran water through the structure and back into the river, its vertical rod (now bent) and gate remain in place. The control wheel, vertical rod and gate for the pipeline are still present. However, this gate is fixed into an open position and still water fills the opening even though no water flows through the pipe. Armco, prior to 1948 known as the American Rolling Mill Company, manufactured the metal parts for the gate mechanisms. This acronym is stamped on the metalwork and confirms that these features were installed after that year and not before.

The pipeline extends underground from the headgate toward the east in the direction of Shields St., a distance of about one-quarter mile. Out of use and unmaintained for four decades, the pipeline no longer emerges from the ground, nor does it transport water anywhere. It remains buried and truncated somewhere beneath the field south of the Larimer County Emergency Services facility. An exposed large diameter concrete pipe that runs underneath Shields St. between the Emergency Services facility and the Creekside Garden Center (1224 N. Shields St.) marks where the watercourse used to flow under the street and into the meander when it was in use decades ago.

**1867 Headgate & Segment (5LR.1829.5)** – This segment of the Josh Ames Ditch is located at an elevation of 4,980' above sea level on land that is owned by the City of Fort Collins. It is situated in the NW¼ of the SE¼, the SW¼ of the SE¼, and the SE¼ of the SE¼ of Section 2, Township 7 North, Range 69 West. This corresponds to the northwest quadrant of the intersection of the Cache la Poudre River and N. College Ave. in Fort Collins, Larimer County, Colorado.

The headgate and ditch segment run through the Salyer Natural Area, Legacy Park, and the River's Edge Natural Area, all owned and operated by the City of Fort Collins and accessible to the public. These areas are largely undeveloped except for unpaved parking areas and drives, minimally developed walking trails, and limited picnic grounds. Prairie grasses and mature trees occupy most of the acreage, with an abandoned river meander to the northwest and the Cache la Poudre River to the south. Farther to the north and east are commercial buildings and a small collection of houses. However, these are out of view from the headgate and most of ditch segment. In general, these characteristics provide the resource with a rural buffer of hundreds of yards in every direction.

The ditch segment is approximately 800 meters (one-half mile) long, and runs from the headgate along the river meander on the west to the Union Pacific railroad tracks west of College Ave. on the east. (*see Figures 3 & 4*) Defined

laterally by a buffer of 10 meters (measured from the segment's center line), the resource includes the headgate and ditch segment. These boundaries form the Area of Potential Effect (APE). The area within this APE is approximately 1.97 acres in size.

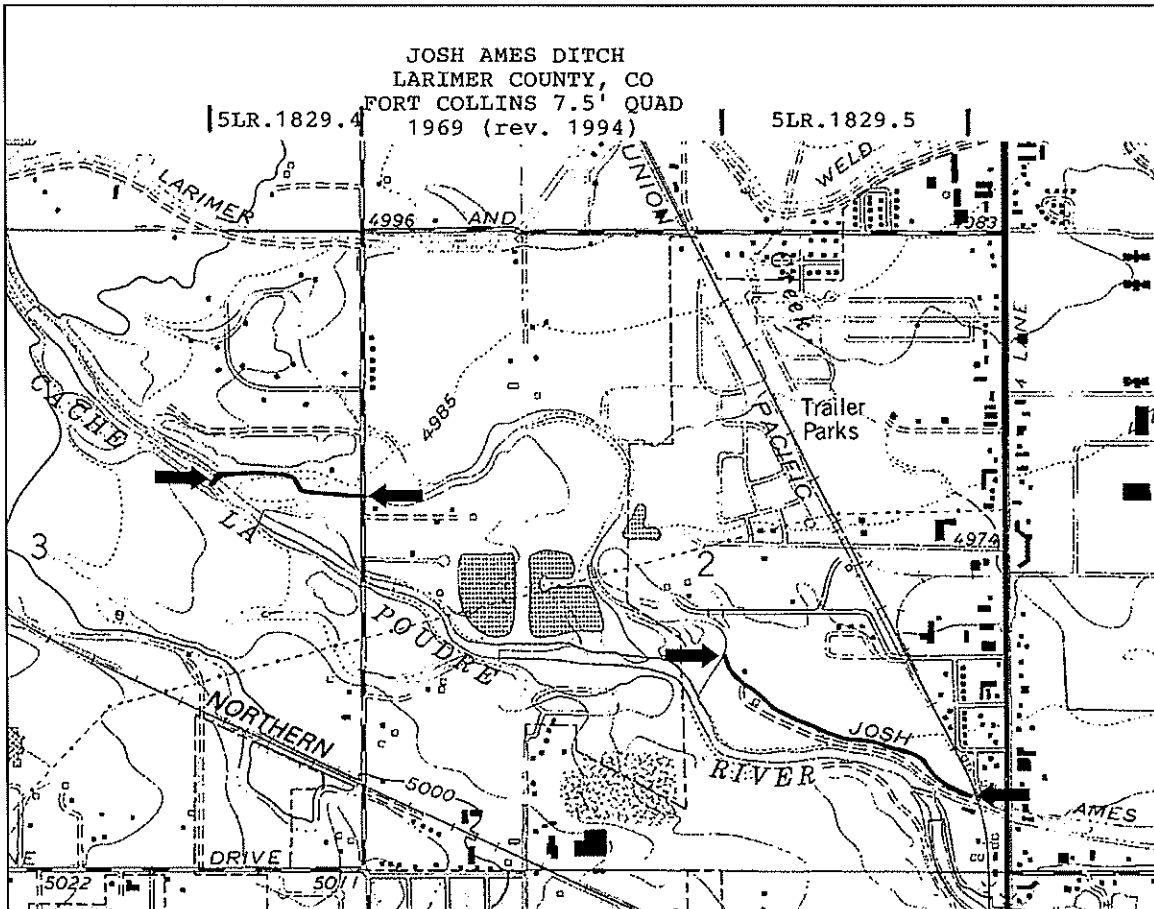
Situated along the east bank of an arcing abandoned meander, the headgate is located about 400' north of the Cache la Poudre River in the Salyer Natural Area. The meander contains water and its banks are thickly overgrown with vegetation. Largely hidden from view by this vegetation, the headgate sits abandoned and in deteriorated condition. The structure is partially collapsed and silted in, allowing water to flow through the headgate only during episodes of flooding.

About four feet in height and approximately twenty feet long (with its wingwalls), the headgate is constructed of both board-formed concrete and concrete blocks assembled with mortar. Mounted atop the headgate structure is a vertical metal ratchet bar and mechanism used to raise and lower the gate. The entire headgate, including its concrete block wingwalls, is collapsing and in poor condition. The metal gate does not appear to be present at the site, but may be buried or obscured by soils and debris. At this time, as much as half of the concrete structure has collapsed or is obscured by soil and vegetation.

Extending from the headgate toward the southeast in the direction of College Ave., the earthen ditch is about one-half mile in length. It appears to have originally been about twelve feet wide at the top and perhaps four to six feet deep. Out of use and unmaintained for over four decades, the segment is severely eroded. The length of the ditch through the Salyer Natural Area has almost completely filled with soil and vegetation, and is largely undistinguishable to the untrained eye. Much of the section through Legacy Park has disappeared entirely. As it continues through the River's Edge Natural Area, the course of the ditch is marked by a shallow swale and tree line, along which the city has recently placed a western buck fence.

Where it is distinguishable, the ditch's route is marked by the shallow swale covered with prairie grasses and filled with a profusion of shrubs and trees. At its eastern end, the ditch segment no longer makes it to College Ave. Instead, it terminates just west of the north-south Union Pacific railroad tracks. From that point to College Ave., a distance of perhaps 100 yards, the ditch's original course has been obliterated by development in recent decades.

**Figure 1**  
**Locations of Segments**



**1966 Diversion Dam, Headgate & Pipeline (5LR.1829.4)**

**T7N-R69W, Sec. 3**

**1867 Headgate and Ditch (5LR.1829.5)**

**T7N-R69W, Sec. 2**

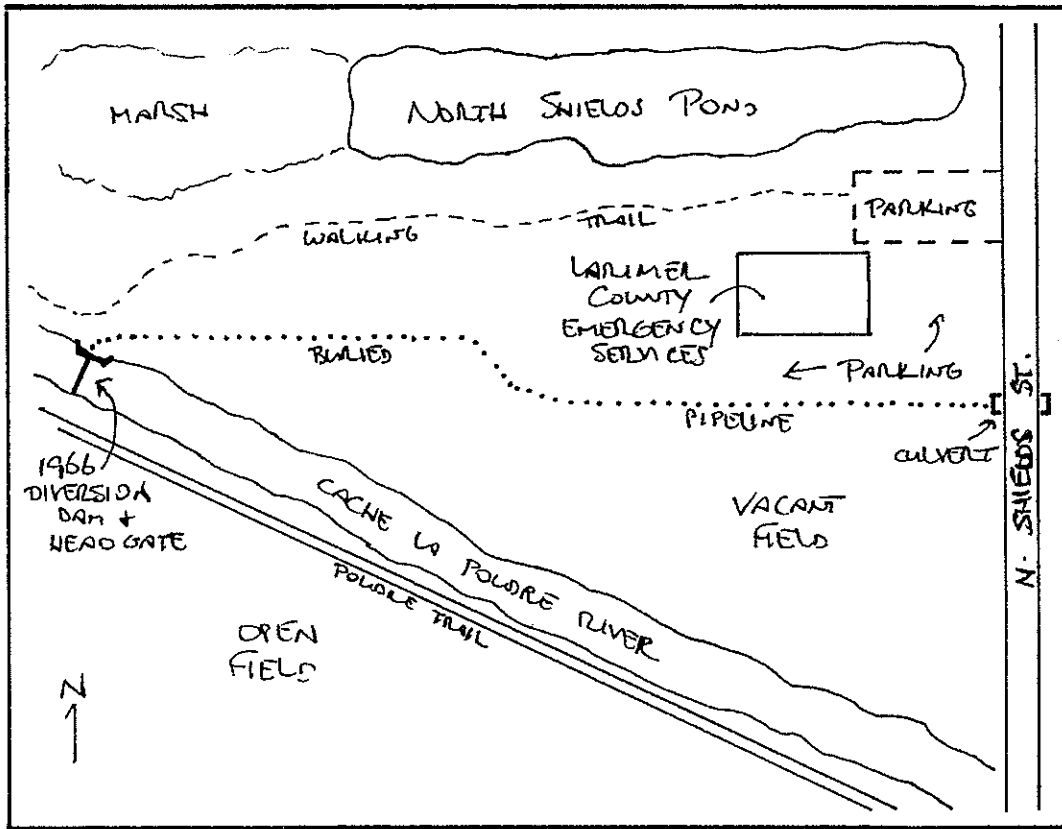
**USGS Fort Collins 7.5' Topographic Quadrangle**

**1969 (revised 1994)**

**not to scale**

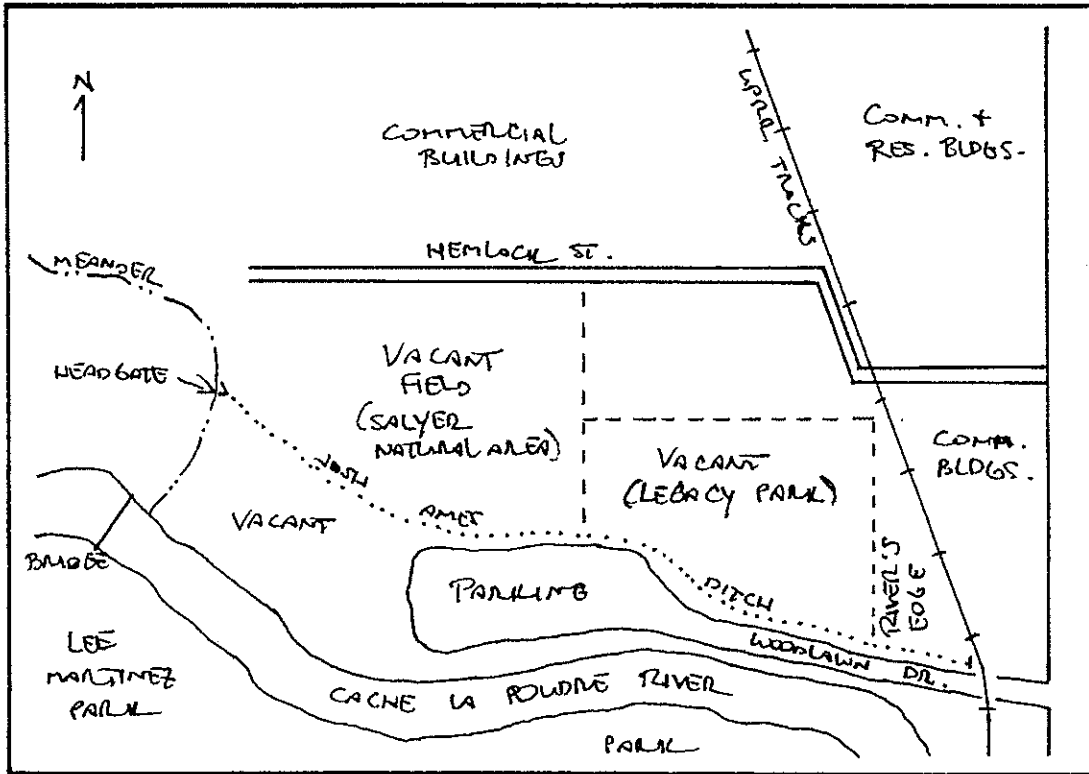


Figure 2  
Resource Diagram



1966 Diversion Dam, Headgate & Pipeline (5LR.1829.4)

Figure 3  
Resource Diagram



1867 Headgate and Ditch Segment (5LR.1829.5)

## **RESEARCH DESIGN & METHODS**

Analysis of the Josh Ames Ditch segments commenced with site visits that were completed in April and May 2013. Ron Sladek of Tatanka Historical Associates Inc. visited the resource to document the ditch segments, the entire length of the ditch, the surroundings, and to assess the resource's physical integrity in relation to National Register eligibility. Staff from the City of Fort Collins, Natural Areas Department, joined Mr. Sladek during the first day of fieldwork. Photographs and field notes were collected. The site visits were followed by preliminary online research to collect information that might be available regarding the Josh Ames Ditch's background and physical features, specifically in preparation for completing the necessary archival research and site forms.

The next step was to complete a file search to locate previous documentation of the ditch in archives held by the City of Fort Collins and History Colorado. This included checking the Colorado Office of Archaeology & Historic Preservation's (OAH) Compass database on 17 April 2013. This search confirmed that a small number of projects (5LR.1829.1 to 5LR.1829.3) had been completed along the ditch between 1994 and 2010. In 1994, the City had the upstream diversion dam and headgate west of Shields St. documented during its Agricultural Resources Survey. Between 2000 and 2010, two additional studies included segments of the ditch that are located east of College Ave.

Archival research was then completed to locate detailed information about the Josh Ames Ditch and its history of development and use. The ditch company ceased operations in the early 1970s and none of its records were found in any single location. Instead, the ditch's story had to be pieced together from a variety of archives and documents. This resulted in the location of numerous published and unpublished materials. A number of documents were located through careful searching in the archives of the Larimer County Clerk & Recorder. Others were found in the archives of the Museum of Discovery in Fort Collins. The Larimer County Road & Bridge Department, State Engineer's Office, and State Archives also proved to be good sources of information.

By the time the research phase came to an end, an adequate number of relevant documents had been located among these sources. Pieced together, these form a substantial body of information about the history and development of the Josh Ames Ditch. The one area of inquiry that remains lacking to a certain degree revolves around the 1966 construction of the upstream diversion dam, headgate and pipeline. No primary records of this construction project appear to survive from either the ditch company or the county.

Finally, the data collected through the fieldwork and research was assembled into this project report and the accompanying site forms. All of the documentation for the project is on file in the offices of Tatanka Historical Associates in Fort Collins, Colorado.

## **HISTORIC CONTEXT**

The history of the Josh Ames Ditch is directly tied to Colorado's 19<sup>th</sup> century settlement by American pioneers and expansion of the both the farm economy and agricultural industry between the late 1800s and mid-1900s. These broad trends were substantially aided by the development of irrigation systems large and small that over time reached across the state's semi-arid northeastern plains like a network of blood vessels. The ditches conveyed the most precious commodity in a dry environment: water that acted as the lifeblood of settlement and development.

During the 1860s, the Colorado frontier experienced an influx of Anglo-Americans drawn west by reports of a gold strike and vast tracts of land to be homesteaded. While most Gold Rush arrivals sought their fortune among the alpine mining camps, others saw opportunity in the river valleys below. As the years passed and mining proved to be a difficult way to make a living, an increasing number of pioneers resettled on lands adjacent to the rivers that emerged from the Rocky Mountains north and west of the settlement of Denver. There they found rich soils but little precipitation in the dry climate. Determined to build thriving farms, some began to construct small irrigation ditches to bring water to their crop fields. Many of these efforts proved successful, launching an age of irrigation that has continued through the present time.

Modest pioneer ditches, those that brought water to the lowlands along the rivers, were excavated by hand and horse along the Cache la Poudre River, along with many other rivers and streams. Many of these individually owned and developed farm ditches traveled short distances to water nearby fields for the small-scale production of food crops and hay for livestock. Some were eventually extended, receiving improvements that allowed them to irrigate larger areas. Mutual ditches operated as non-profit enterprises developed for the benefit of their common owners. Throughout the 1860s and 1870s, many but not all of northeastern Colorado's irrigation ditches remained modest in length but provided an ever-growing population of pioneer farmers with much needed water for their fields and livestock.

Between 1860 and 1890, it is estimated that the number of irrigated acres in Colorado rose from 35,000 to more than one million. By 1900, Colorado had more acreage under irrigation than any other state in the nation. Fifty years later, the state held around 17,000 miles of irrigation ditches and canals. (Holleran, 2005) Colorado irrigation systems of the late nineteenth and early twentieth centuries came to be viewed as profit-making opportunities in much the same way as railroads, electrical grids, and oilfields.

The history of the Josh Ames Ditch begins shortly after the Civil War, when pioneer Josh Ames launched the construction of a ditch along the north side of the Cache la Poudre River that would provide irrigation water for his crop fields

about two miles downstream. Joshua Beardsley Ames was born on 23 March 1839 in the area of Clintonville, New York, close to Lake Champlain. By 1850, the family was living on a farm in the same vicinity, specifically in Chesterfield, Essex County.

In the spring of 1862, Joshua and his younger brother Orvand set out for the western frontier with the goal of reaching the Colorado Territory that summer. Their journey coincided with the Civil War, a time when many young men of their generation were volunteering for service rather than heading west to start a new life. Why they decided to head west and not participate in the war is no longer known. The brothers traveled with Andrew Ames, possibly an older cousin, who had already been to Colorado and had returned east to retrieve his mother and sisters. In Kansas, the Ames party met up with the family of John G. Coy, who had left Missouri hoping to reach California. However, the Coys experienced delays in their crossing of the plains that forced them to shorten their journey and also head to Colorado.

Together, the Ames and Coy families made their way to the South Platte River and then followed the Cache la Poudre River upstream to the area of present-day Fort Collins. At that time there was still no fort and the only town in the vicinity was the small village of Laporte, located close to the foothills. Several miles below Laporte they claimed adjacent homestead parcels in the open countryside north of the Cache la Poudre. Today this area is just east of downtown Fort Collins in the vicinity of Lemay Ave., from the river north to Vine Dr. The Coy family settled the acreage now occupied by the Link-N-Greens Golf Course (SE $\frac{1}{4}$  of Section 12, T7N-R69W). Joshua Ames located his homestead in the adjacent section to the east and northeast across today's Lemay Ave. (E $\frac{1}{2}$  NW $\frac{1}{4}$ ; SW $\frac{1}{4}$  NW $\frac{1}{4}$ ; and the NE $\frac{1}{4}$  SW $\frac{1}{4}$  of Section 7, T7N-R68W).

Ames filed a preemption claim in October 1864 and then obtained the patent to the 160-acre parcel in December 1870. His lands were located just east, south and southeast of today's Andersonville neighborhood. This includes the western grounds of the Downtown Fort Collins Airpark, which started to be developed in the mid-1960s, including the area surrounding the intersection of Link Ln. and Lincoln Ave. In addition to the Coy family to the southwest, Ames' neighbors included an immigrant pioneer from Norway by the name of Peter Anderson. Anderson farmed extensive acreage to the north across Vine Dr., along with land southeast of Vine Dr. and Lemay Ave. In addition to farming, Anderson went on to become a Fort Collins banker, merchant, city alderman and president of the Chamber of Commerce. The small community of Andersonville near his farm and the sugar factory was later named in his honor.

In 1866, Joshua returned briefly to the Midwest to marry Eliza Lorain Angier. She was born in 1842 in Lakeport, New York, a village along the south shore of Oneida Lake northeast of Syracuse. The couple married in Clayton, Iowa and

went on to have four children, the first three of them born in Colorado. They settled on Joshua's farm near Fort Collins and remained there into the 1870s. During the early 1870s, Joshua transferred ownership of half the acreage to his wife.

The first irrigation ditch along the Cache la Poudre River was constructed in 1860 near the town of Bellvue. Pioneers eager to irrigate their crops launched additional projects along the length of the river over the following years. Most of these early ditches stayed in the bottomlands and were modest in construction and length due to the labor-intensive work involved. In 1867, Joshua Ames established a new ditch that would irrigate his fields. He partnered with his neighbor Peter Anderson, and the two men excavated a 1.75-mile ditch that brought water from the Cache la Poudre River to their farms. The ditch diverted the water through a headgate located along a meander north of the river and then headed east through the open fields until it terminated in Dry Creek at today's intersection of Lemay Ave. and Vine Dr. From there, Dry Creek and a system of lateral ditches carried the irrigation water to their fields.

Joshua and Eliza sold their agricultural lands in the mid-1870s, with different parcels going to Orvand Ames, John Coy and Alfred Howes. In 1878, the last of the acreage was sold and Joshua and Eliza moved to Storm Lake, Buena Vista County, Iowa. There he became a clothing merchant and they continued to raise their four children. Sometime between 1885 and 1900, they relocated to Kenosha, Wisconsin. Still working as a clothing dealer, Joshua had reached his early sixties. The couple made their last move between 1905 and 1910 to San Juan Batista, San Benito County, California, just east of Monterey Bay. Joshua operated his own chicken farm there for a short time. He died on 31 May 1911 and was buried in the San Juan Batista Cemetery.

In 1882, four years after Joshua and Eliza Ames left Fort Collins for Iowa, the ditches throughout Water District No. 3 were adjudicated by the District Court of Larimer County to firmly establish the priorities and appropriation of water rights from the Cache la Poudre River. During this period, the Josh Ames Ditch (also referred to as Ditch No. 17) was owned by Peter Anderson, Alexander Barry, Charles G. Buckingham and Robert Howes. The adjudication decree described it as used for "the irrigation of lands and domestic purposes taking its supply of water from the Cache la Poudre River with headgate in a slough of said river on the north side thereof about one half mile above the crossing of the Colorado Central Rail Road in the S.E. ¼ of section 2." Holding priority number twenty-five along the river, the ditch had a floor four feet in width and was capable of carrying 2,155 cubic feet of flowing water per minute, an appropriation of 35.91 cubic feet per second. Priority number twenty-five was listed as dating from 1 October 1867, the date that construction was started by Ames and Anderson.

The Josh Ames Ditch continued to operate throughout the 1880s and 1890s, largely under the same ownership as described in the 1882 adjudication. Its sole purpose during this period was to provide irrigation water to the farms of Josh

Ames and Peter Anderson, and to those who acquired the former Ames acreage. In June 1899, Peter Anderson, Alexander Barry and J. H. C. Walker filed articles of incorporation for the Josh Ames Irrigation Ditch Company, and the ditch entered a new period of its history. With capital stock of \$40,000, the new firm took possession of the ditch and its water rights. The articles of incorporation declared the company to be a profit-making enterprise engaged in the sale of irrigation water along with related activities such as the acquisition and sale of water rights, ditches and real estate. Four hundred shares were issued, each with a par value of \$100.

The articles of incorporation were amended in 1904, raising the number of shares to four thousand and setting the par value of each at \$10. In 1913, the company amended the articles again, this time to reduce the capital stock to 2,885 shares valued at \$10 each. Although Peter Anderson remained involved with the ditch company into the early twentieth century, the president of the firm during these years was Franklin C. Avery and the secretary was Frank P. Stover, both prominent Fort Collins pioneers and businessmen.

In August 1912, the New Mercer Ditch Company and the Larimer County Canal No. 2 Irrigating Company petitioned the district court in Fort Collins to change the water rights assigned to the Josh Ames Ditch. The two firms sought a reapportionment and change in the diversion point of its water. This would allow them to remove a defined amount of water from the river at their two headgates above the town of Laporte. By that time, the petitioning ditch companies had acquired more than one-quarter of the capital stock of the Josh Ames Irrigation Ditch Company (1,115 shares out of a total of 4,000). This, they claimed, entitled the two stockholders to 10.91 cubic feet of water per second from the ditch. No objections were raised and the court granted the request. The amount of water still available to the Josh Ames Ditch was reduced to 25 cubic feet per second to supply 710 acres of irrigated agricultural lands east and northeast of the town.

Two years later, in July 1914, the Water Supply & Storage Company filed a similar petition with the district court for a water transfer and change in diversion point. In this case, the company held 447 shares of the Josh Ames Ditch and wanted to divert this water directly from the river into its Larimer County Canal. The Water Supply Company owned approximately one-ninth of the Josh Ames Ditch's water, or close to four cubic feet per second. Different from the 1912 petition, this request was contested by the Fort Collins Milling & Elevator Company and by the New Cache la Poudre Irrigation Company. Both firms claimed that the change would deprive them of water that was secured by their own appropriations. The Water Supply & Storage Company responded to their objections by withdrawing the petition.

Another petition involving the Josh Ames Ditch came before the district court in late 1917. This case, The New Cache la Poudre Irrigating Company (plaintiff) vs. The Josh Ames Irrigating Ditch Company et al (defendants), was settled in early

January 1919. It was an attempt by the plaintiff to settle issues that remained unresolved from the 1912 case that reallocated water from the ditch to two other companies. In addition to the Josh Ames Ditch, the defendants included the New Mercer Ditch Company, Charles R. Evans (on behalf of the Water Supply & Storage Company), and John L. Armstrong (the water commissioner of Water District 3). The Larimer County Canal No. 2 Irrigating Company was no longer in the picture, as the New Mercer Ditch Company had apparently acquired its share of the water rights during the intervening years.

The court found that of the Josh Ames Ditch's original 35.91 cubic feet of water per second that was permitted for irrigation by the adjudication decree of 1882, only 25 cubic feet had been diverted into the ditch each irrigation season between 1890 and 1912. Because the ditch company had not used the remaining 10.91 cubic feet of water per second for more than twenty years, the court concluded that this water had been abandoned. The transfer of 10.91 cubic feet of water per second in 1912 to the New Mercer Ditch Company and the Larimer County Canal No. 2 Irrigating Company was therefore more than should have been allowed.

In his 2 January 1919 decision, Judge Robert Strong found that the New Mercer Ditch Company should have been granted an allocation from the Josh Ames Ditch in 1912 based upon its reduced appropriation of just 25 cubic feet of water per second. In other words, rather than 10.91 cubic feet of water per second, the New Mercer Ditch Company should have been allocated 7.03 cubic feet per second. With this amount removed from the Josh Ames Ditch's re-adjudicated 25 cubic feet per second, the court ordered that from 1919 on its allocation would be reduced to 17.97 cubic feet of water per second. The New Mercer Ditch Company was also ordered to limit its diversion of Josh Ames Ditch water to 7.03 cubic feet per second from that time forward. The case was appealed to the Colorado Supreme Court, which in 1921 upheld the lower court's decision.

Despite the reduced flow of the ditch, the stockholders of the Josh Ames Irrigating Ditch Company met in Fort Collins in October 1919 and voted to extend the life of the corporation for another twenty years. Around that time, the ditch was still providing irrigation water for 480 acres of land. The president of the company during the 1910s and well into the 1920s was Charles R. Evans.

By the late 1910s, the natural flow of water into the meander that supplied the Josh Ames Ditch headgate was supplemented by the installation of a small cobblestone dam in the river near the natural diversion point west of the county road that later became Shields St. Water pooled by the dam was diverted into a narrow channel that ran east and into the meander. A short distance to the east, the meander passed under a bridge along the county road. These features were located along the north side of the river on the parcel where the Larimer County Emergency Services facility is now found at 1303 N. Shields St.



While the ditch company held many of its meetings in local attorneys' offices, during the 1920s at least some of these took place at the Great Western Sugar Company factory. This underscored the ditch company's relationship with the plant. Although little information remains about the exact nature of this business relationship, it is known that the ditch provided water to the factory for many years. This may have been used for the washing of beets after they arrived at the plant. Water was diverted from the ditch at a concrete junction box located across the county road (now Vine Dr.) north of the factory. From that point, it was transported to the plant through a buried 12" diameter pipeline that ran directly into the factory's eastern wing. Wastewater exited the south end of the building and then headed east along Lateral No. 3. Much of the ditch's flow was reportedly utilized by the sugar plant for many decades.

The articles of incorporation of the Josh Ames Irrigation Ditch Company were amended again in 1926. This time the firm declared itself to be a mutual ditch company, operating as a non-profit organization rather than a for-profit enterprise. It had essentially returned to its original purpose, that of providing irrigation water to its owners, although in this case they were its stockholders. In May 1942, the stockholders met again to extend the life of the corporation, this time perpetually. Its president around that time was S. F. Webster.

The Josh Ames Ditch continued to operate through the 1950s and into the 1960s. However, during this period events began to occur that would change the ditch's history and bring its period of use to a rapid conclusion. First, the Great Western Sugar Company factory in Fort Collins closed in 1960 and the process water from the Josh Ames Ditch was no longer needed. Then in 1966, work began on development of the Fort Collins Airpark in the fields southeast of the sugar plant that were irrigated by the ditch. Industrial-warehouse properties also began to be developed in this area, which included the lands that were homesteaded by Josh Ames a century earlier. Redevelopment of the crop fields into a city airport and industrial park quickly reduced the need for irrigation water from the ditch.

Despite the fact that the ditch's history of use was coming to a close, the Josh Ames Irrigation Ditch Company made one last improvement to its water diversion and delivery system during the years before its demise became fully apparent. For many years, possibly even centuries, prior to the 1860s, water from the Cache la Poudre River had flowed naturally out of the main channel and into the north meander that in 1867 started to supply the headgate of the Josh Ames Ditch. After leaving the river's main channel just west of Shields St., the river water flowed through and pooled in the triangular property now occupied by the Larimer County Emergency Services facility (1303 N. Shields St.). From there it continued east along the meander, passing under a small roadway bridge along County Road 35 (now Shields St.).

After passing under the road, the meander headed east through the parcel now occupied by the Creekside Garden Center (1224 N. Shields St.). The watercourse then arced through the countryside, curving to the northeast, east and then southeast. It passed the Josh Ames Ditch headgate, where some of the water was diverted for irrigation and the sugar factory. Finally, the meander traveled a short distance to the south where it met again with the river's main channel. As mentioned above, flow through the meander was first enhanced by the 1910s when a small cobblestone dam was placed in the river near the diversion point west of Shields St.

In 1952, the triangular parcel of land that held the beginning of the meander where it diverged from the main river channel was acquired by Larimer County. Over the following years, it appears that the county completed grading on the site to channel this first length of the meander and eliminate the pooling west of Shields St. This work may have been completed in conjunction with the ditch company. By 1960, the meander was channeled under Shields St. through two parallel pipes that were each 72" in diameter. These seem to have been installed as part of a road improvement project along Shields St. that also involved bridge replacement.

Six years later, in 1966, it appears that the Josh Ames Irrigation Ditch Company had a new diversion dam and headgate built near where the late 1910s cobblestone dam and diversion channel had been constructed to draw water into the meander. This may have been a response to low precipitation years in 1963, 1964 and 1966 that probably decreased flow through the meander to the original ditch headgate. In addition to the new concrete dam, which spanned the river channel, the 1966 project involved raising the north river bank and the construction of a tall headgate structure. These features reduced the potential for periodic flooding along the meander while siphoning much needed water through the headgate into a buried corrugated metal pipe. From the headgate, the pipe ran toward the east under the property now occupied by the Larimer County Emergency Services facility. The diverted river water then emerged from the pipe near the west side of Shields St., passed under the road, and continued east along the surface through the meander.

Following the dry years in the mid-1960s, the City of Fort Collins formed a Water Board that advised the council on water-related matters. This board studied the question of adequate water supplies for the growing city and determined that the municipality ought to be purchasing shares in area ditch companies. In June 1971, the City of Fort Collins acquired all of the water adjudicated under Priority No. 25, as amended and decreased to 17.97 cubic feet of water per second, from the Josh Ames Irrigation Ditch Company. The company's stockholders voted to approve the sale, which was of the raw water and not the ditch system itself. In exchange for the ditch company's water, the stockholders were provided with certificates giving them proportional use of treated city water. Each certificate also entitled the owner to fulfill future City of Fort Collins water requirements as

their lands were annexed. Company president Donald Pavel, one of the largest stockholders, made the arrangements with the city. The other directors at the time were Henry Schlagel, Samuel Webster, and Thomas Bassett.

Following the sale, the City of Fort Collins submitted an application to the water court for Division No. 1 stating that it intended to use the Josh Ames Ditch water to augment its municipal water supply. It accomplished this by conveying the water rights (along with rights to the Arthur, Larimer County No. 2 and New Mercer ditches) to the North Poudre Irrigation Company. This transfer covered a portion of the price for the city's acquisition of the Michigan Ditch and Joe Wright Reservoir, both of which remained important parts of the municipal water system into the twenty-first century.

In 1972, the Josh Ames Irrigation Ditch Company's remaining physical assets, excluding the water rights sold to the city the previous year, were transferred to trustee Henry Schlagel. The following year, in December 1973, the ditch system, together with its rights of way, easements, headgates and all other ditch structures were transferred again, this time from Schlagel to Donald Pavel. These transfers of the water rights and ditch system during the early 1970s effectively ended the useful life of the Josh Ames Ditch and its long history of irrigation came to an end.

## RESULTS

The Josh Ames Ditch as a whole, and the two segments specified in this project, were evaluated in light of the resource's history and significance, viewed from the contextual background of the history of irrigation in Colorado during the period in which it was built and operated. Two published context documents guide analysis of the Josh Ames Ditch and these segments in particular. These are Michael Holleran's 2005 *Historic Context for Irrigation and Water Supply Ditches and Canals in Colorado* and Joseph E. King's 1984 *Colorado Engineering Context*.

In addition to the contextual analysis, the resource was evaluated for architectural or engineering integrity and in relation to the following four National Register significance criteria:

- A Associated with events that have made a significant contribution to the broad patterns of our history;
- B Associated with the lives of significant persons in our past;
- C Embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction;
- D Yielded, or may be likely to yield, information important in history or prehistory.

The Josh Ames Ditch was constructed in 1867, and over the following century continued to operate as an earthen irrigation ditch that took its water from a headgate along an active meander in the countryside just north of the Cache la Poudre River and west of College Ave. The ditch system drew water from the river by way of the natural meander that originated about 1.25 miles above the headgate. Downstream from the headgate, the ditch ran for 1.5 miles to its convergence with Dry Creek. From there, Dry Creek acted as the ditch as it transported the water another half mile or so to area crop fields. Excess water from the ditch system terminated in the Cache la Poudre River a short distance to the southeast. In addition to irrigating crop fields, from 1904 to 1960 the Josh Ames Ditch supplied process water to the Great Western Sugar Company's factory northeast of downtown.

In 1966, the ditch company altered the meander at its natural diversion point west of Shields St. There it raised the riverbank and constructed a diversion dam, headgate and pipeline designed to stabilize and regulate flow into the meander. However, with the sugar factory no longer requiring water after 1960 and the crop fields east of Fort Collins coming under development starting in the mid-1960s, the ditch's effective life was coming to an end. During the early

1970s, the ditch company sold its water rights to the City of Fort Collins and the system itself was abandoned. Over the decades since that time, the 1966 headgate and pipeline at the meander diversion point were disconnected from the system, the 1867 headgate (rebuilt circa 1950-1970) became seriously deteriorated, the ditch eroded to a shallow swale filled with vegetation, and along several of its lengths it was completely erased from the landscape.

Several segments and features of the Josh Ames Ditch were documented and evaluated between 1994 and 2010. The Colorado SHPO lists these as 5LR.1829.1, 5LR.1829.2 and 5LR.1829.3. The 1994 documentation, completed for the City of Fort Collins, focused upon the diversion dam and headgate west of Shields St. This study (5LR.1829.1) found these features to be ineligible for National Register eligibility. It also mistakenly assumed that this was the location of the original ditch headgate, which was actually located along the meander 1.25 miles downstream.

The second and third studies (5LR.1829.2 & 5LR.1829.3) took place in 2000 and 2010, involving short segments of the Josh Ames Ditch that are located along and east of College Ave. While the 2000 evaluation concluded that the ditch was officially not eligible for the National Register of Historic Places, the evaluation completed in 2010 appears to have reversed this decision. In February of that year, a field determination was made that the ditch was not eligible. However that same month an official determination concluded that in fact it is eligible for National Register designation. Although no other information or rationale was provided by the state, this official determination was relied upon for the completion of this current 2013 study.

Throughout the period between 1867 and the mid-1960s, the Josh Ames Ditch served as a small but integral part of the irrigation system associated with agricultural lands east of the growing town of Fort Collins. It was started early in the pioneer era and contributed to the agricultural development of the arid plains east of the Rocky Mountains. In addition, after the Great Western Sugar Company plant opened in 1904 across the Cache la Poudre River northeast of downtown, the Josh Ames Ditch was recruited to transport water to the facility for manufacturing purposes. This was accomplished through the construction of a buried pipeline that ran south to the plant from the ditch's main course north of Vine Dr. In light of the ditch's long history of development and use, it is considered eligible for the National Register of Historic Places under Criterion A for its association with agriculture and agricultural industry in Fort Collins.

The period of significance for the Josh Ames Ditch runs from 1867, when the ditch was started, through 1963, which is the current fifty-year mark. The sugar plant ceased operations in 1960, after which the factory no longer needed the ditch. However it continued to serve the agricultural fields east of town for another decade. In 1966, work began on development of the Fort Collins Airpark in the crop fields that had been watered by the ditch for a century. This facility continued to expand throughout the late 1960s. That same year, the ditch

company constructed a diversion dam, headgate and pipeline that allowed it to control flow into the meander that led to its original headgate. By 1970, the ditch was abandoned as it was no longer needed for agriculture. During the early 1970s, the water rights were sold to the City of Fort Collins and then transferred to another ditch company through an arrangement that enhanced the city's municipal water supply.

While the historical significance of the Josh Ames Ditch has been officially recognized as substantial enough to merit National Register eligibility, the segments and features west of College Ave. now suffer from substantial problems related to physical integrity. Due to severe erosion, vegetative growth, the elimination of some lengths of the ditch, reconstruction of the 1867 headgate sometime between around 1950 and 1970, deterioration of that headgate, and disconnection of the 1966 diversion dam, headgate and pipeline from the ditch system, the two segments included in this study fail to support the eligibility of the ditch as a whole. In fact, today the entire length of the ditch has serious integrity issues, and the two segments that are currently under study are no exception.

The National Register Bulletin entitled *How to Apply the National Register Criteria for Evaluation* states that a resource's integrity has to be evaluated in light of whether it retains the ability to convey its significance. In other words, one has to not only understand the property's significance, but also which physical features are essential to conveying that significance. And while the significance of an irrigation ditch applies to the resource as a whole, integrity must be evaluated according to the segment that is currently under study. The question that has to be answered, then, is whether the segment supports the ditch's overall eligibility.

According to the *Historic Context for Irrigation and Water Supply Ditches and Canals in Colorado* (Holleran, 2005), a historic ditch segment must retain at least several, and usually most, of the seven aspects of integrity that are defined by the National Register. The two segments of the Josh Ames Ditch that are currently under study clearly retain adequate degrees of their aspects of location, setting and materials. However the aspects of design, workmanship, feeling and association have all been diminished by four decades of abandonment, erosion, vegetative growth, disconnection, development and lack of maintenance.

The *Colorado Engineering Context* (King, 1984) also addresses the integrity of irrigation resources as it relates to significance. According to King, the physical condition of ditches "should be clearly evident, not filled-in or substantially modified." The *Colorado Plains Historic Context* (Mehls, 1984) discusses irrigation, but refers records back to the Engineering Context for information on analyzing the integrity and significance of irrigation features.

According to these contexts and the assembled facts on the Josh Ames Ditch segments, it is evident that they do not support the ditch's overall eligibility.

## **RECOMMENDATIONS**

Over the course of the past nineteen years, three previous projects analyzed segments of the Josh Ames Ditch and made determinations of eligibility about the resource as a whole. None of these did an adequate job of completing archival research and documenting the ditch's history of use and development. One of these prior projects included the western segment that is currently under study, mistakenly assuming that the 1966 headworks was the original ditch headgate. The most recent of these efforts, completed in 2010, seems to have resulted in an official determination that the ditch is eligible. However no rationale was provided to support this determination.

While it is true that the Josh Ames Ditch may have been eligible for the National Register under criterion A in the areas of agriculture and agricultural industry, today it exhibits substantial and varied integrity problems. These are discussed in detail above. It is highly recommended that the OAHP review the history and current condition of the ditch, which was not properly documented in the earlier studies, and reevaluate its determination of eligibility.

Aside from that point, the two segments that are currently under study do not support the eligibility of the ditch as a whole due to integrity problems of their own.

Current plans for the segments are limited to possible removal of the 1966 diversion dam, headgate and pipeline west of Shields St. as part of an ecological restoration project along the river. In light of the conclusions detailed in this cultural resource study, *there are no anticipated direct or indirect adverse impacts to NRHP eligible resources within the APE.* No further work is recommended.

## **BIBLIOGRAPHY**

- "Annual Meeting." *Fort Collins Courier*, 16 February 1923, p. 3.
- Articles of Incorporation, Josh Ames Irrigation Ditch Company, 9 June 1899. Larimer County Clerk & Recorder.
- Bengoechea, Ventura. "Input-Output Modeling of the Water System of the City of Fort Collins." Environmental Engineering Program, Department of Civil Engineering, Colorado State University, May 1979.
- Bode, Dennis. "Fort Collins Water System History." Unpublished manuscript, 8 January 1985.
- Certificate of Amendment of the Articles of Incorporation of the Josh Ames Irrigation Ditch Company, 12 September 1904. Larimer County Clerk & Recorder.
- Certificate of Amendment to Articles of Incorporation, Josh Ames Irrigation Ditch Company, 31 December 1926.
- Certificate of Renewal of the Certificate of Incorporation of Josh Ames Irrigation Ditch Company, 2 May 1942.
- Complaint, First National Bank in Fort Collins v. Josh Ames Irrigation Ditch Company et al, Larimer County District Court, 3 August 1971.
- Deed of Conveyance, Josh Ames Irrigation Ditch Co. to the City of Fort Collins, 2 June 1971.
- Extension of Corporate Life, Josh Ames Irrigation Ditch Company, 14 October 1919. Larimer County Clerk & Recorder.
- Findings and Decree, Adjudication of Priorities of Water Rights, District No. 3, Water Division No. 1, 28 August 1912. District Court, Larimer County.
- Findings and Final Decree of Court, New Cache la Poudre Irrigating Company v. Josh Ames Irrigating Ditch Company et al., 2 January 1919. District Court, Larimer County.
- Harza Engineering Company, "Cache la Poudre Basin Water and Hydropower Resources Management Study," Denver: Colorado Water Resources & Power Development Authority, January 1987.



Hearing Transcript in the Matter of the Application of the City of Fort Collins, Colorado, for Approval of a Plan of Augmentation, District Court, Water Division 1, Case #W-1424, 6 June 1972.

Holleran, Michael. *Historic Context for Irrigation and Water Supply Ditches and Canals in Colorado*. Denver: Colorado Center for Preservation Research, 2005.

Holleran, Michael. *Irrigation and Water Supply Ditches and Canals in Colorado, 1787-1961*. National Register of Historic Places, Multiple Property Documentation Form, 2005.

"Important Water Suit to be Tried." *Fort Collins Weekly Courier*, 31 July 1914, p. 4.

Josh Ames Ditch, Files 5LR.1829.1 through 5LR.1829.3. History Colorado, Office of Archaeology and Historic Preservation, 2000-2010.

Kelly, William R. "The New Cache la Poudre Irrigating Company / The Cache la Poudre Reservoir Company: Some History for the Past 88 Years." Unpublished Manuscript, 1 November 1958.

King, Joseph E. *Colorado Engineering Context*. Denver: Colorado Historical Society, Office of Archaeology & Historic Preservation, 1984.

Lafin, Rose. *Irrigation, Settlement and Change on the Cache la Poudre River*. Special Report Number 15. Fort Collins: Colorado Water Resources Research Institute, Colorado State University, 2005.

Larimer County Land Book Number 1, Larimer County Clerk & Recorder (microfilm).

"Map of Irrigation Water Development Along the Front Range." Northern Colorado Water Users Association, 1967.

"Map of Josh Ames, Coy & Other Ditches, 1918." Colorado State University Archives.

March, Arthur E. Jr. & Ward H. Fischer. "Report of Investigations and Accomplishments Regarding Raw Water Supplies for the City of Fort Collins, Colorado." Circa 1973.

Marhoff, A. L. "Map of Fort Collins and Suburbs." March 1929.

McWilliams, Carl & Karen. "Agriculture in the Fort Collins Urban Growth Area, 1862-1994." Fort Collins: Advance Planning Department, 1994. (This includes a survey form for the Josh Ames Diversion Dam and Headgate, 5LR.1829.)

Mehls, Steven F. *Colorado Plains Historic Context*. Denver: Colorado Historical Society, Office of Archaeology & Historic Preservation, 1984.

New Mercer Ditch Co. et al v. New Cache la Poudre Irrigating Ditch Co., Supreme Court of Colorado, 6 June 1921. 70 Colo. 351, 201 P. 557. Case #9866.

"Peter Anderson." *Portrait & Biographical Record of Denver and Vicinity*. Chicago: Chapman Publishing Company, 1898.

Petition for Approval of Plan of Augmentation, District Court, Water Division 1, Case #W-1424, 10 September 1971.

Project Files, Larimer County Road & Bridge Department.

Property Information, Larimer County Assessor. Parcels 97024-20-915 & 97031-00-920.

*Sixteenth Biennial Report of the State Engineer to the Governor of Colorado, 1911-1912*. Denver: Smith-Brooks Printing Company, 1913.

Steinel, Alvin T. *History of Agriculture in Colorado*. Denver: State Board of Agriculture, 1926.

Stone, Wilbur Fisk, editor. *History of Colorado*. Chicago: S. J. Clarke Publishing Co., 1918.

"Table for Irrigation District No. 3." *Fort Collins Courier*, 4 September 1884, p. 7.

Title Records, Larimer County Clerk & Recorder, 1864-1985.

Trask, Jay. "Irrigation and Water-Related Structures in the Cache la Poudre River Corridor." Fort Collins: Poudre Heritage Alliance, 2003.

Tunner, Carol. "Historical Research for the North College Avenue Study." Historic Preservation Office, Advanced Planning Division, Planning Department, City of Fort Collins, 1993.

US Census Records, 1850-1940.

USGS Fort Collins, Colorado 7.5' & 15' Topographic Quadrangle Maps: 1906, 1960, 1969, 1994.

"Water Allotments, Water District No. 3, Cache la Poudre Valley," *Greeley Daily Tribune*, 11 January 1956, p. 7.

"Water Decrees of Water District No. Three, 1882." Larimer County Clerk & Recorder.

Water Rights Report by Structure Name. Colorado Division of Water Resources. Accessed 6 June 2013.

Watrous, Ansel. *History of Larimer County, Colorado*. Fort Collins: Courier Printing & Publishing Co., 1911.

## APPENDIX A

### Survey Log

Site Number	Location	Resource Name	NRHP Eligibility
5LR.1829.4	1303 N. Shields St.	1966 Diversion Dam, Headgate & Pipeline	Segment Does Not Support Eligibility of the Josh Ames Ditch
5LR.1829.5	Salyer Natural Area, Legacy Park, River's Edge Natural Area	1867 Headgate & Ditch Segment	Segment Does Not Support Eligibility of the Josh Ames Ditch