

## **Appendix F**

# **Hazardous, Toxic and Radioactive Waste**

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# 1. Introduction

The United States Army Corps of Engineers (USACE) Albuquerque district has completed a hazardous, toxic, and radioactive waste (HTRW) Phase 1 Site Assessment per ASTM Standard D6008-96 (2014) to evaluate the environmental baseline conditions at Spring Creek, Co, as part of the Spring Creek restoration project. The project Site is located along Spring Creek in central-east Colorado Springs, CO. (Figure 1). Subject Site is currently owned by the sponsor.

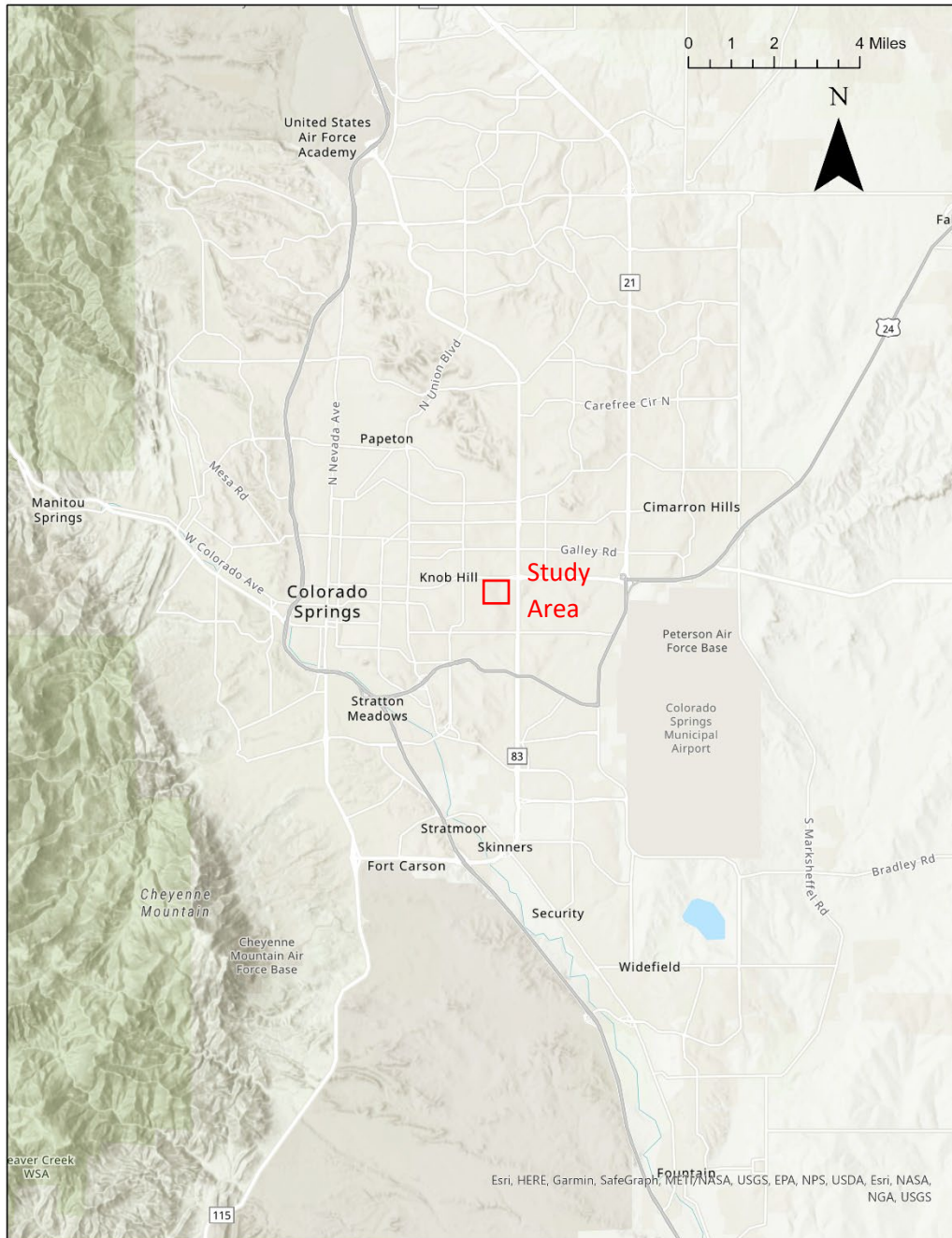


Figure 1. Approximate location of study area in Colorado Springs, Co.

## 1.1 Purpose

The purpose of conducting the HTRW Site investigation is to, in cooperation with the Sponsor, the City of Colorado Springs, CO, determine the environmental condition of a property proposed to be restored to a wetland and bird sanctuary, formerly managed by the Audubon Society, and reduce sedimentation within the stream. Stream channel incision and morphological changes resulted in the degraded wetland. Structural and non-structural means will be used to restore the wetland habitat and improve stream channel function and stability. There is a conservation easement (CE) on the property that limits its land use to a “natural, scenic and open condition as a wildlife habitat” in perpetuity. This ecosystem restoration project is in line with the CE.

## 1.2 Scope of Work

The scope of work was prepared in accordance with the ASTM Standard D6008-96 (2014) to determine the environmental condition of the Site:

- Site description, including climate, geology, and surface water.
- Conduct a record search and review all reasonably attainable federal, state, and local government information and records to determine possible onsite sources of hazardous substances and environmental condition of the Site.
- Review of all reasonably attainable federal, state, and local government records of adjacent facilities that could have released or likely released contamination to determine possible offsite sources of hazardous substances.
- Analysis of aerial photographs to gain information that may reflect prior uses of the Site and the surrounding area.
- Conduct interviews with the owner and/or tenants or others with strong knowledge of the Site.
- Identify contamination sources using data gathered and evaluate what risk they pose.
- Identify all ongoing actions that may affect the environmental conditions of the Site.
- Visual site inspection of the Site to identify possible hazardous substance sources.

## 2. Site description

The Site consists of three parcels of land in central - eastern Colorado Springs, Co. along the Spring Creek corridor, reach 1 – Pikes Peak North, reach 2 – former wetland site and reach 3 – south channel (Figure 2).



Figure 2. Aerial photograph of study area. Red polygons delineate the three reaches of the study Site, from north to south, Pikes Peak North, Former Wetland site, and South Channel.

## 2.1 Climate

Colorado Springs, Co has a cool, semi-arid climate, with cool, dry winters and summers being the wetter part of the year due to the North American Monsoon. The average annual precipitation in Colorado Springs, is 16 inches with majority occurring in August. The hottest month is July with an average high temperature of 84 degrees Fahrenheit. The coldest month is January with an average low temperature of 18.5 degrees Fahrenheit.

## 2.2 Regional Geology

Colorado Springs sits at the boundary of two physiographic provinces: the Rocky Mountain Province to the West and the Great Plains to the east.

The Rocky Mountain province in Colorado Springs occurs as the Front Range which rises abruptly above the plains and forms part of the Continental Divide. The major fault system trends north to south, and the base of the mountains stand at 6,000 feet above sea level, reaching altitudes of 14,000 feet. The greater part of the Front Range is composed of Precambrian older metamorphosed igneous and sedimentary rocks and younger sediments and intrusive igneous masses. The Rocky Mountain region uplift began in the Tertiary period and continued throughout the Cenozoic era.

The Great Plains province extends across the country in a broad north-south zone between the Rocky Mountains and the Prairie Plains of the Mississippi Valley. The province slopes eastward at the rate of about 10 feet per mile from an elevation of 6,000 feet at the base of the mountains to 1,000 feet in the Mississippi Valley. The surface of the Great Plains has been developed on a series of soft rocks, sands, clays, and loams, primarily of Mesozoic and Cenozoic age.

## 2.3 Surface Water

Spring Creek runs through the Site and is the main surface water in the area. The Creek is not gauged at the Site, but there is a USGS gauge above the confluence with Fountain Creek, to the southwest. The Site is not monitored for impairments, but below the confluence with Fountain Creek, there are impairments for E. Coli (Regulation #93 5 CCR 1002-93, CDPHE)

2010), associated with avian fecal matter.

## 3 Environmental Database Review

### 3.1 Regulatory Agency Databases Records Search

A record search and review was performed in accordance with ASTM D6008-96 (2014) to determine historically whether there has been storage, release or likely release of any hazardous substances or petroleum products at the Site.

Reviews of records related to the study Site and nearby properties kept by both Federal and State regulatory agencies were conducted. This review was used to help identify known or potential sources of contamination that could adversely impact the study Site. Table 1 provides a summary of the ASTM standard environmental records sources databases searched and corresponding search distances. Findings may be listed in more than one database.

### 3.2 Environmental Database Review Purchase Report

A report was purchased from Environmental Data Review (EDR) which carries out a comprehensive records search of the Site. These records include events relating to HTRW near the Site, including but not limited to aerial photographs, topographic maps, federal and state cleanup sites and related records, and nearby spills of petroleum products and HTRW. This search was done to aid in determining if there are any known or potential sources of contamination that could impact the Site.

This records search from EDR, found multiple HTRW sites and events, some sites are reported in more than one records database. No events occurred at the study Site, but multiple events occurred within 1 mile of the Site. Full EDR is found at the end of this report.

Table 1. Selected Record Sources and Search Distances

<b>Record Source</b>	<b>Description</b>	<b>Search Distance</b>	<b>Number of Records Located</b>
Federal National Priority List (NPL) site list	NPL Sites, including CERCLA cleanup sites	1 Mile	0
Federal Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) list	Sites currently under review for inclusion to the NPL, proposed and final NPL Sites	1/2 Mile	0
Federal Resource Conservation and Recovery Act (RCRA) TSD facilities list	Permitted RCRA Treatment, Storage, and Disposal Facilities	1 Mile	0
Federal RCRA generators list	RCRA Registered Generators of Hazardous Waste	Property and adjoining properties only	1
Federal Emergency Response Notification System (ERNS) list	Reporting and incident notification system for releases of oil and hazardous substances	Property	0
State and Tribal Landfills and Solid Waste Disposal Facilities	The Solid Waste Information System, which administers solid waste and materials management program.	1/2 Mile	4
State and Tribal Leaking Underground Storage Tank Sites	Information about underground storage tank facilities that require cleanup and their cleanup history	1/2 Mile	6
State Cleanup Sites	Details about contaminated sites in State	1 Mile	0
State and Tribal Registered Storage Tanks	Reports containing information about regulated underground storage tanks	1/4 Mile	2
State and Tribal Voluntary Cleanup Program	Reports containing information about Voluntary Cleanup Program (VCP) sites being cleaned up under the Model Toxics Control Act	1/2 Mile	1

### 3.3 Known or Suspected Environmental Conditions

#### 3.4 The Site

There were no HTRW occurrences at the Site based on the EDR records search. The section of Fountain Creek below the confluence with Spring Creek has an impairment for E. coli, which is believed to be associated with avian fecal matter. Research indicates Ruxton Creek, Manitou Springs, a tributary to Fountain Creek, as bring the primary source for contamination (USGS Fact Sheet 2011-3095), where high density of avian activity, nesting pigeons under bridges, leads to increase in E. coli concentration. As the Site restoration project includes the creation of a wetlands, increased avian activity is expected, however with increased species diversity, avian density is likely to be less than that identified at Manitou Springs. Improvements in water quality are not a goal of this project.

#### 3.5 Adjoining Property

Adjoining properties consist of housing developments to the east and west, and commercial properties to the north and south. Roads separate the Site from the adjoining properties.

There is one RCRA generator located within 1/4 of a mile of the study Site. Ameri Cleaners is a dry cleaners located at 3875 E Pikes Peak Av classed as a conditionally exempt small quality generator for halogenated solvents. One violation was reported in 2009 which resulted in a compliance advisory.

There are six leaking underground storage tanks (USTs) within ½ mile of the study Site, including 3 gas stations. Of the leaking USTs, non are active leaks, and the status of the leak violations is closed. There are four solid waste disposal facilities within ½ mile of the Site all of which are automotive related. There have been nine petroleum release events within ½ mile of the Site, these include gas stations, fire department, automotive and a crematorium.

There is one Voluntary Cleanup Site within ½ mile of the study Site, Automax, which had a potable water spill due to a transportation accident and there are two RCRA Non-Generators within ¼ mile of the Site, a paint manufacturer, and an auto parts store.

## 4 PROPERTY HISTORY

This Site was a previous wetland and bird sanctuary formerly managed by the Audubon Society. The land surrounding the Site has changed significantly, from farmland to a highly urbanized area. The Site itself has seen change, primarily associated with changes to the surrounding areas.

### 4.1 Aerial Photography and Historical Topographic Map Analysis

A comprehensive analysis of aerial and satellite photos and historical topographic maps was completed as part of the EBS for the Site. Photographs and maps of the Site for the period from 1893 - 2019 were obtained from the EDR purchase. Fourteen aerial photographs were reviewed to identify any significant areas of disturbance. While reviewing maps and aerial photographs, the Site was studied for the following:

- (1) evidence of excavation activities of unknown type
- (2) evidence of industrial operations
- (3) evidence of dumping or disposing of waste materials
- (4) evidence of significant storage activities involving drums, tanks, or pipelines containing hazardous substances or petroleum products; and
- (5) evidence of staining associated with industrial activities or activities of unknown origin or type.

The most significant change seen in the aerial photography is the urbanization of the area, as the city of Colorado Springs developed eastwards. The initial aerial photograph (1937) shows an undeveloped site, with terraced farmland surrounding the Site on all sides. Spring Creek can be identified in the initial aerial photograph. In 1960, roads and trails began to appear to the west, and in 1969 housing development in the parcels of land to the immediate east and west of the Site are seen. The parcels to the north and south remain largely undeveloped. Development to the north and south begin between 1975 and 1983 and was initially limited. Vegetation, grass, shrubs, and trees can be seen in the 1983 image. By 2005 the surrounding area has been urbanized with modern roads and highways and is recognizable to current conditions.

The topography of the Site has largely remained unchanged, except for downcutting by the river. This is significant in places, up to 10 feet from the surrounding elevation. The topography of the surrounding property has also remained unchanged, with some slight variations related to urbanization which can be seen in the historical and current topography maps.

The maps and photographs reviewed for analysis from 1935 to 2017 are listed in Table 2, along with a brief description of potentially significant findings. All maps and photos listed in Table 2 have been included in Appendix B.

Table 2. Significant aerial photographs reviewed

<b>Date</b>	<b>Map/Photo ID</b>	<b>Significant findings</b>
<b>Aerial Imagery</b>		
1937	USDA	Spring Creek visible, with surrounding terraced farmland. Little to no housing or roads in the area
1960	USGS	Roads constructed to the west of the Site; terraced farmland no longer present
1969	USGS	Housing developments to the east and west only
1983	USDA	Urbanization/development to the north and south
2005	USDA/NAIP	Site is similar to current conditions

## 5. Interviews

Interview documents were sent to the sponsor with a request that they be completed by the local community and/or people recognized as having expertise knowledge of the area (college faculty etc.). One interview was completed, and no HTRW concerns were identified. The interview document is below.

### **Phase I Environmental Site Assessment (ASTM E2247-16) Interview**

Interviewer: Timothy Biolchini, City of Colorado Springs  
Interviewee: Colorado Springs Utilities Environmental Services and City Real Estate Services  
Interview Date: 6/1/23  
Site Visit Date: 6/1/23  
Project: Spring Creek Ecological Restoration Project  
General location: SW Corner of Pikes Peak and Academy Boulevards  
Property: Parcel # 6415414013  
Description (lat/long, Section, Township, Range): 38°49'51.1"N, 104°45'33.4"W,

What is your title/relationship to the property? Property owned by City of Colorado Springs with use by Colorado Springs Utilities. Utilities Environmental Services monitors all City properties for environmental compliance and issues.

Do you have any specialized knowledge or experience that is material to any recognized environmental conditions in connection with the property (for example, affecting value, deed restrictions)?

Property has deed restrictions for drainage use only, no developments allowed.

Do you have any knowledge of any of the documents listed in Attachment 1 have been generated?

None.

Do you have any knowledge of: (1) any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property; (2) any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the property; and (3) any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?

None.

Provide any additional knowledge of the site that will support the Phase I Environmental Site Assessment.

None.

City of Colorado Springs  
Land Owner

6/1/23

## 6. Site visit

USACE representatives conducted a visual reconnaissance of the Site, ASTM Standard D6008-96 (2014), in August 2022. The purpose of the Site visit included identifying visible indicators of hazardous or potentially hazardous substances that were historically used or are currently used, generated, stored, or disposed of on the Site.

The Site visit consisted of walking the length of the Site, inspecting the boarder, structures, taking photographs (After section 8), and noting significant observations.

The Site has steep tree line banks leading down to stream, in places there is little surface vegetation. Sections of the stream bank have been eroded back to vertical, up to 10 feet high with exposed sediment. These two features will likely lead to high levels of erosion during large precipitation events. Erosion may expose buried substances. Graffiti exists on entrances to tunnels/culverts. In reach 2, the former wetland site, a sewer pipe crosses the stream, and appears to be well maintained. There are multiple homeless encampments at the Site, with associated debris.

At all sites, large amounts of solid waste occur. These are in the form of plastic bags, buckets, car and bike tires, bike parts, glass, concrete, metal grates, and waste associated with the homeless encampments such as fast-food containers, clothes and the remains of tents and temporary housing structures. It is difficult to determine the source of all the solid waste, some are likely brought in via storm events, dumped, and/or associated with the homeless encampments.

The concrete could be left over from construction of storm drains, culverts or be brought in during flooding events. Large concrete slabs have eroded from the bank, fallen into the stream and act to trap trash. Stream water is clear, with low turbidity.

No hazardous substances, or petroleum products were observed. The current use of the Site is wetland and has not been likely involved in the use, treatment, storage, or generation of hazardous substances or petroleum products. There were no indications of current use that would suggest unauthorized use that involved the use, treatment, storage, or generation of hazardous substances or petroleum products.

## 7. Discussion and Conclusion

### 7.1 Discussion

A review of Federal and State environmental databases revealed no HTRW records for the Site, but multiple HTRW records for adjacent properties within the search distances listed in Table 1. Of these events, UST leaks are the main concern. The Site is a topographic low and contains a stream, so movement of contaminants towards the Site is possible depending on the extent of the release, and groundwater flow direction. Many of the USTs are now closed and based on the distance, location and activities associated, these sites are not considered to pose a significant environmental risk at the Site.

There are extensive amounts of solid waste, mainly associated with the homeless encampments in the area. In general, these are not classed as HTRW, but the potential for drug paraphernalia and human excrement must be considered.

Given the location of the Site in a highly urbanized area, surface water runoff during storms is a potential source of contamination to the Site, as is the storm drain to the east.

Based on current and past uses of the property suggest the use, treatment, storage, or generation of hazardous waste or petroleum products is not likely.

### 7.2 Conclusion

USACE conducted a Phase I Environmental Site Assessment for the Spring Creek restoration project in conformance with the scope and limitations of ASTM Standard D6008-96 (2014). The records review, historic aerial photographs, site reconnaissance and interviews were used to assess the historic and existing environmental conditions within the Site area and adjoining properties. This assessment did not identify the presence or likely presence of any hazardous substance, or petroleum products on the Site that indicate an existing release, a past release, or threat of a release into the ground, groundwater, or surface water of the Site, but does identify HTRW events in adjacent properties, primarily UST leaks and miscellaneous solid waste.

Based on these findings, the Site is not considered to pose a risk from HTRW. If any non-native, discolored, odorous soils, areas of concern or contaminants are identified, construction shall be postponed and USACE will coordinate with the sponsor to determine the appropriate course of action.

## 8. Site visit photographs

Photographs shows different aspects of the Site, Spring Creek, river incision, homeless encampments, engineering structures and solid waste.

Reach 1:



Figure 1a and b. View looking along the channelized Spring Creek and the underpass at to the south of E Platte Ave showing solid waste.

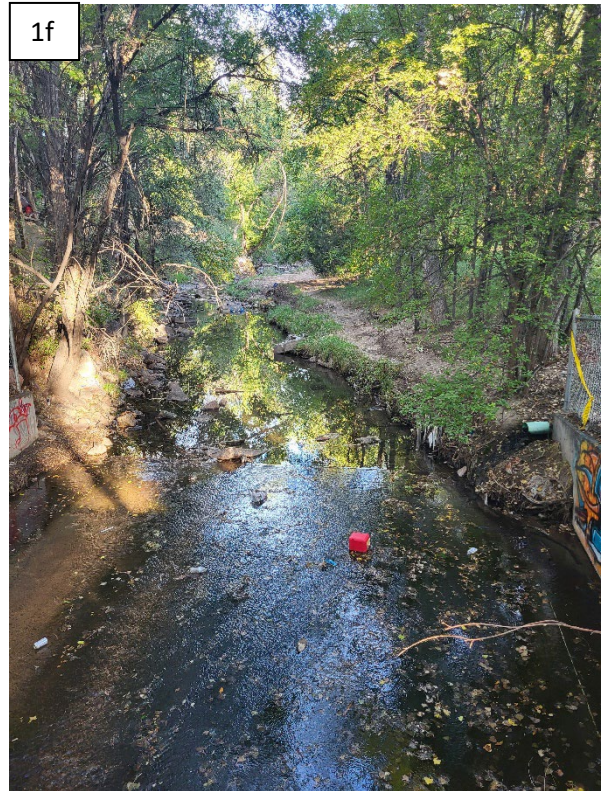
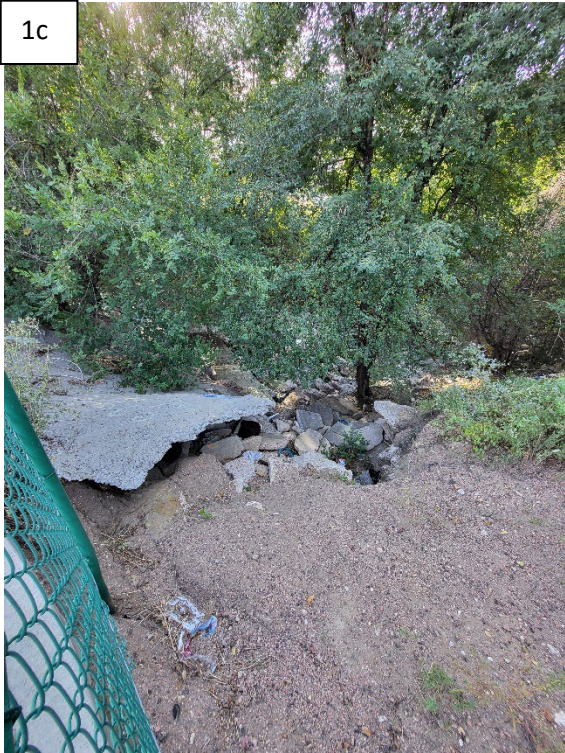


Figure 1c, d, e and 1f. Accumulations of solid waste and section of concrete slab that have entered Spring Creek

Reach 2



Figure 2a, b and c. The natural banked channel, river incision and erosion of bank, and aerial sewer line

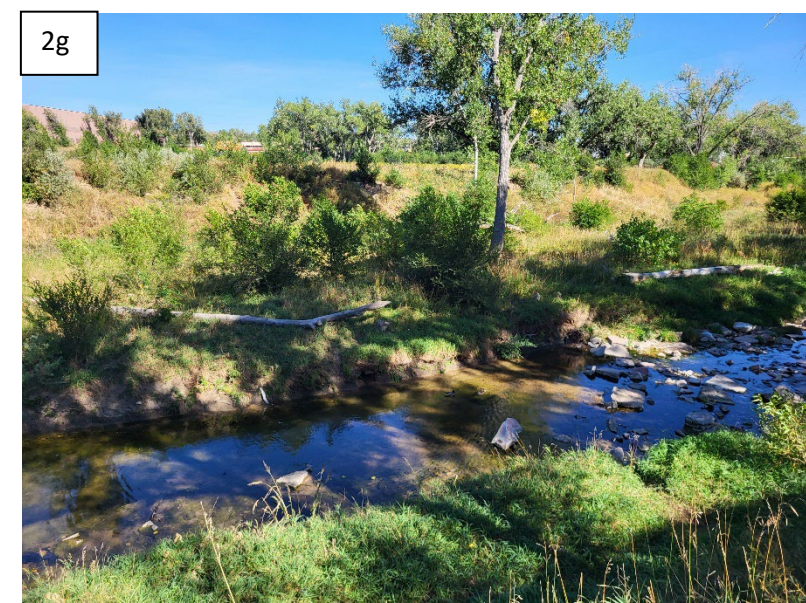


Figure 2d, e, f and g. Culverts at Airport Rd and Academy Rd, river incision and bank erosion and solid waste in river.

Reach 3



Figure 3a, b and c. Wier, concrete lined channelized section with concrete slab in river



Figure 3d and f. Culvert and foot bridge crossing Creek both with solid waste accumulation.

## 9. References

ASTM, D6008-96, *Standard Practice for Conducting Environmental Baseline Surveys* (2014)

Colorado Division of oil and Public Safety, *Petroleum Releases Map*, accessed April 2, 2023  
<https://ops.colorado.gov/Petroleum/maps>

Regulation #93 5 CCR 1002-93, Colorado Section 303(D), *list of impaired waters and monitoring and evaluation list*, Colorado Department of Public Health and Environment

Environmental Data Review (EDR), *Standard Package Report*, <http://edrnet.com>

Barkmann PE., Marieke D., Wickham ME., Carlson J., Formolo S., and Oerter EJ., *OF-11-03 Cross-Sections of the Fresh Water Bearing Strata of the Denver Basin between Greeley and Colorado Springs, Colorado*, Groundwater, 2011. Open File Report. Denver, CO: Colorado Geological Survey, Division of Minerals and Geology, Department of Natural Resources.

Finlay G, 1961, 1:24000-scale Quadrangle for Colorado Springs, CO, U.S. Geological Survey

Finlay G., 1961, Description of the Colorado Springs Quadrangle, U.S. Geological Survey

Stoeckel, D, 2011, *Evaluation of fecal contamination by human and ruminant sources in upper Fountain Creek, Colorado, 2007-2008, by using multiple lines of evidence*, U.S. Geological Survey Fact Sheet 2011–3095, 4 p.

## 10. Environmental Data Review Report