

# Rainbow Falls

## MASTER PLAN



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2002 Creek Crossing  
Colorado Springs, CO 80905

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First and foremost, we appreciate the leadership and support from the Board of County Commissioners for the continued development of parks, trails, and open space in El Paso County.

### **County Commissioners**

- Darryl Glenn, District 1
- Amy Lathen, Chair, District 2
- Sallie Clark, Vice Chair, District 3
- Dennis Hisey, District 4
- Peggy Littleton, District 5
- Wayne Williams (Former Commissioner)
- Jim Bensberg (Former Commissioner)

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### **Park Advisory Board**

- Robert Altenbernd
- Barbara Remy
- James Mariner
- Jane Fredman
- Warren Hill, Liaison to Rainbow Falls Coalition
- Jeff Cramer
- Martha Johnson
- Michael Straub
- Chris Meyer
- Sallie Clark, Liaison Commissioner

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## **Rainbow Falls Coalition Members**

- Bill Koerner, Trails and Open Space Coalition
- Dan Folke, Planning Director, City of Manitou Springs
- Eric Billmeyer, Rocky Mountain Field Institute
- Gayle Jackson, EPC Development Services
- Warren Hill, EPC Park Advisory Board
- Jim Yount, Manitou Springs Open Space, Medicine Wheel
- Karen Cullen, Citizen
- Kathy Andrew, EPC Environmental Division
- Lane Williams, Manitou Environmental Citizens Action
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- Mary Jo Smith, Chief of Police, City of Manitou Springs
- Ron Marko, Manitou Environmental Citizens Action
- Sallie Clark, El Paso County Commissioner
- Tom Evans, Fountain Creek Restoration Committee Vice-Chair, Fountain Creek Watershed, Flood Control, and Greenway District, Citizens Advisory Committee
- David Watt, Colorado Department of Transportation
- Bob McDonald, EPC Sheriff's Office
- Martin Rendleman, Citizen

County staff played a significant role in the preparation of the Rainbow Falls Master Plan. The following staff members deserve recognition for their contributions:

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- Jeremy Symes, Parks Central District Supervisor
- Whitney Johnson, Grant Analyst

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## The VISION

*To restore Rainbow Falls as a community recreation area that provides opportunities for residents and visitors to enjoy its natural, historical and cultural amenities.*

## Introduction

The Rainbow Falls Recreation Area is a 4.92-acre site located near Manitou Springs in the west central part of El Paso County. The property boundaries are defined by the rights-of-way of U.S. Highway 24, Serpentine Drive and West Manitou Avenue.

The purpose of the Master Plan is to identify the objectives and priorities for the restoration and development of the Rainbow Falls Recreation Area. The planning started in 2007 with a preliminary feasibility study of the regional trail connections in the area, as well as creek

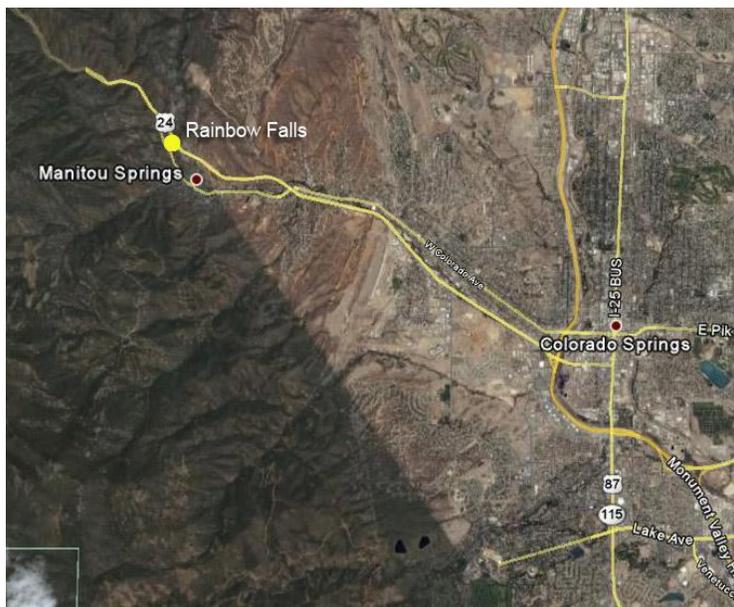


Figure 1-Vicinity

access to the waterfall called Rainbow Falls. Through the feasibility study, a preliminary vision was developed for Rainbow Falls and the restoration of this unique resource. The study identified the restoration and access to the Falls as the number one priority.

With the help of the Manitou Environmental Citizens Action (M.E.C.A.) organization, County Commissioner Sallie Clark, the Manitou Springs Planning Department and El Paso County Parks, the feasibility study made a recommendation to move forward with securing additional planning funds to develop a Master Plan for the area, as well

as pursuing a path to secure ownership of the property with the intent of developing and managing the property as a community recreation area.

As of June 2010, the ownership of Rainbow Falls was secured by the County. The planning process was initiated to capture the long-term restoration and development vision for this one-of-a-kind community resource. The goal of the second phase of planning for the property was to engage the broader public in a process to further refine the long-term vision, and set goals, objectives and priorities for the restoration of Rainbow Falls.

For more than 100 years this small piece of real estate near Manitou Springs has been of interest to residents and visitors as well as the intersection of many man-made endeavors and plans. Today the property is in a state of disrepair as the years of road development and uncontrolled access has eroded away the natural beauty and features of the site. This has

resulted in access issues and management concerns. As a privately-owned area, there was no attention given to long-term concerns. Now, as a publicly-owned resource, the County seeks to address the concerns and enhance the access while providing a safe destination for residents and visitors.

## Planning Process

The planning process has been driven by an active community partnership, led by El Paso County and the Rainbow Falls Coalition. The Coalition has brought hundreds of volunteer hours and personal resources to the vision and restoration plans for the Falls. The Coalition has made the restoration of the Falls a priority and through collaboration the group has been responsible for moving the process forward.

The second phase of the planning process started in 2010 and was focused on formalizing the vision and establishing the community-wide buy-in for the approval and adoption of a Rainbow Falls Master Plan. The process started with defining a new outreach program to engage local stakeholders, users, community-wide recreation interests, citizens and public officials in the vision. Through this process the Coalition defined and tested the project goals, which led to the development of the project objectives and priorities.

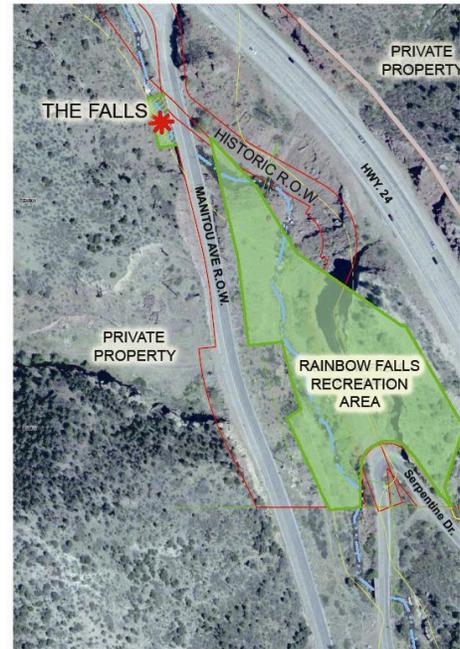


Figure 2- Site Location Map

During the second phase, the project team met face-to-face with local land and resource managers, city representatives and users to discuss alternatives. Outreach also included web postings, a public open house and an on-line questionnaire, all which were used to inform the community about project progress and collect valuable feedback on ideas and preliminary priorities. This information was then used to develop plan elements and shape implementation goals.

With the help of M.E.C.A., the vision was shared with the local newspapers and television stations. The message and dialogue was further supported by various public presentations and by organizing site clean-up days under the direction of the M.E.C.A. and the Rainbow Falls Coalition and the Fountain Creek Restoration Committee.

With both the Open House and the on-line methods, the participants were asked to provide input through various questionnaire instruments. The results from the Open House and on-line methods were used to identify the restoration priorities and program needs. The questionnaires provided information about the visitors and their use of the area.

- The majority of those who responded visited the site on a monthly or annual basis.
- Primary reasons to visit were to enjoy the waterfall and natural setting.
- In terms of the restoration priorities, participants ranked the cleanup of graffiti, repairing the erosion damage and improving access into the Falls as their top

priorities.

- The car was identified as the primary mode of transportation for most visitors which supports parking lot improvements.
- Participants requested access from the nearby neighborhoods into the recreation area and to the existing regional trail system.

While the questionnaires did not provide a basis for scientific analysis, a great deal of information was collected to assist the team in a qualitative analysis of preferences and priorities. The on-line tools also allowed the planning team the ability to capture the zip codes of the participants, which illustrated the success of the process in collecting feedback from residents from all corners of the County. Only 20% of the participants came from the nearby Manitou Springs neighborhoods.

## Site Inventory and Analysis

The purpose of the site inventory and analysis was to develop a clear understanding of the existing property conditions and its potential assets and liabilities to be addressed with the Master Plan. The following provides a brief summary of the findings.

### Topography and Geology

The unique topography and geology of the area are two major environmental factors that can be identified with Rainbow Falls. The characteristics that draw people to the area and the natural setting of the Falls both shape the assets and liabilities that define the restoration and management objectives for this recreational area.

The geology consists primarily of Pikes Peak granite which is a decomposing granite that covers much of the western half of El Paso County. While much of it is stable, because of decomposition it quickly erodes and becomes a nuisance, once it is disturbed. In geologic time, the granite was formed at great depths in the earth, was eventually at the earth's surface and eroded for a long period. The sandstone above the granite was deposited in shallow seas. This Sawatch Formation, a sandstone or quartzite illustrates a geologic gap in the existing formation and is frequently called the "great unconformity". This unconformity is very evident in the area today and provides unique identity for the site. (Hill 2011)

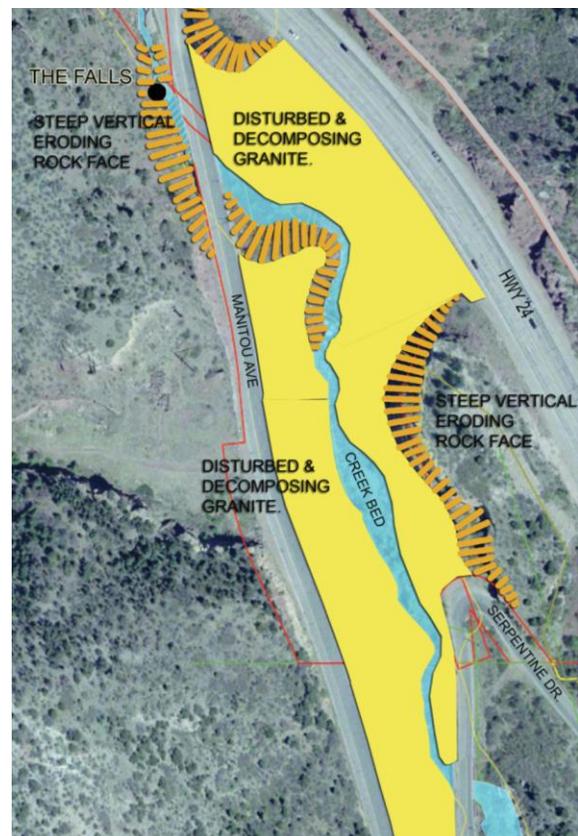


Figure 3-Topography and Geological Survey

The topography defines the dramatic nature of the Falls by providing the 50-foot drop from the head of the falls to the shallow pools below. It also creates a series of smaller falls that follow below the namesake waterfall. The topography has also worked to the detriment of the area.

The historical impacts of the transportation expansion in the area were focused on this small access point which created a great deal of landscape disturbance. The natural setting of the Falls provided approachable grades for the roads that extend west into Teller County. Since the mid-1860s the route along Fountain Creek and past the Falls became a popular westward passage-way. Since the early days and through the 1960s, man has continued to improve this route in support of progress. However, due to the landscape and the geology, Rainbow Falls is trapped between two roadways and the erosion that accompanies the disturbance of the highly erodable Pikes Peak granite.

## Drainage

Rainbow Falls is one of the main highlights along the western branch of Fountain Creek. The Creek is the primary drainage that follows Ute Pass and Highway 24 from Woodland Park to Colorado Springs and is recognized as an important segment in the long-term regional Fountain Creek Watershed management plan.

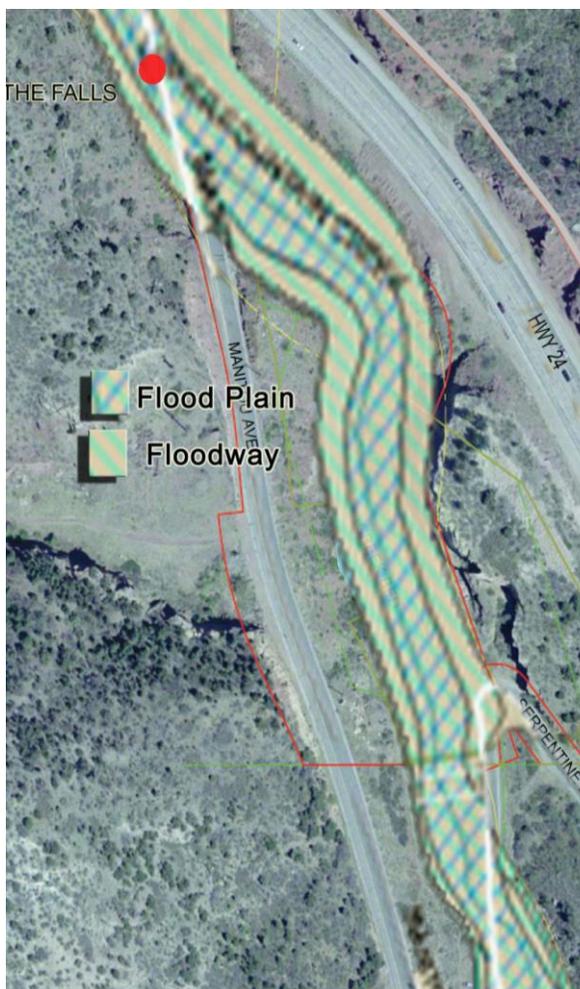


Figure 4-Flood Plain Survey

The recreation area consists of the namesake Rainbow Falls and a small series of falls down stream that have been covered and impacted by the years of road construction. The capacity of the creek and the quality of its water are directly affected by the highway activity. This is evidenced by the continued collection of sediment in the downstream creek improvements within the limits of Manitou Springs. The existence of the highway and management of the facilities will continue to impact the Falls and the recreation area.

As part of the Fountain Creek Watershed Study and Watershed Management Plan prepared in 2009 by the U.S. Army Corps of Engineers, the Highway 24 Corridor was identified as 1 of 13 conceptual watershed management projects. The Rainbow Bridge area was identified as a potential Corps Section 14 project. The project was not fully analyzed at the time of the study, but it was noted that the project was expected to have sufficient benefit/cost ratio in meeting steambank erosion protection objectives. (USCOE 2009)

The above graphic illustrates the potential flood plain and floodway impacts. Any work in the area will require U.S. Army Corps of Engineers and

Federal Emergency Management Agency (FEMA) permitting and approval. Additional survey work will need to be completed at the final design phase to clearly map and stake the limits of the flood plain and floodway. (Augenstein 2001)

## Vegetation

The vegetation in the area has been heavily influenced by the filling and grading associated by road construction over the years. Landscape restoration was not a priority in the early construction practices and the vegetation today is impacted by noxious weeds. There are a few trees established along the creek edge (willow and cottonwood), but little of the site reflects the native plant communities and patterns of the surrounding hillsides.

Today the disturbed landscape consists of knapweed, dalmatian toadflax, bouncingbet, oxeye daisy, Chinese clematis and many other noxious weeds. The County has taken some initial steps to spray and control some of the weeds on both sides of the creek and volunteers have removed weeds. The terrain is very rough with various steep slopes making weed control difficult. Care is being taken to protect the eastern steep slope within the highway right-of-way. There is a high concentration of diffuse knapweed on the eastern slope with very little other vegetation present. Eliminating the knapweed could cause additional erosion. (Jack 2011)

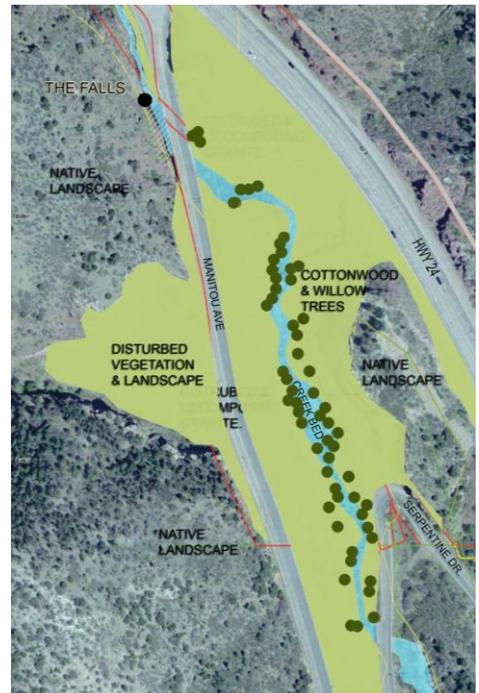


Figure 5-Vegetation Survey

## Wildlife

There are very few signs of wildlife in the area due to the transportation network and habitat impacts, but the Ute Pass area is part of the overall range for black bear, bighorn sheep, mountain lion, mule deer and wild turkey, with fall and summer concentrations of black bear. (CDOW)

While the project is within the range of the greenback cutthroat trout and the Preble's meadow jumping mouse, it lacks the appropriate habitat to support these species. The project area is heavily impacted by human activity, and the proposed project occurs in the footprint of existing disturbances. It is anticipated that improved parking and trails will better contain human activity to designated areas, thus allowing for improved wildlife usage of other areas near the project. When vegetation management plans are developed, greater consideration should be given to wildlife habitat development. (Prieve 2010)

The Preble's Meadow Jumping Mouse is classified as "threatened" under the Federal Endangered Species Act. Clearance from the U.S. Fish and Wildlife Service is required prior to development. At present, the Mouse is not anticipated in this area. The County will be responsible for applying for a Preble's Meadow Jumping Mouse Clearance.

## Visual Resources

There are two primary types of views for consideration. The first are the approaching views from above the site and second are the hillside views from the site. While views of the Falls are very limited to on-site opportunities, it is important to recognize the greater off-site views of the surrounding hillsides. Beyond the impacts of the road cuts, the surrounding views of Pikes Peak and the City of Manitou Springs foothills provide a nice backdrop. Short of removing the bridge and restoring the adjacent road cuts, there is very little opportunity to enhance the visual resources. The real visual resources of the site are found within the narrow creek

corridor and can be improved by stabilizing the eroding slopes and implementing the recreation plans.



Figure 6 -Viewshed East



Figure 7- Creek Views

## Cultural and Historic Resources

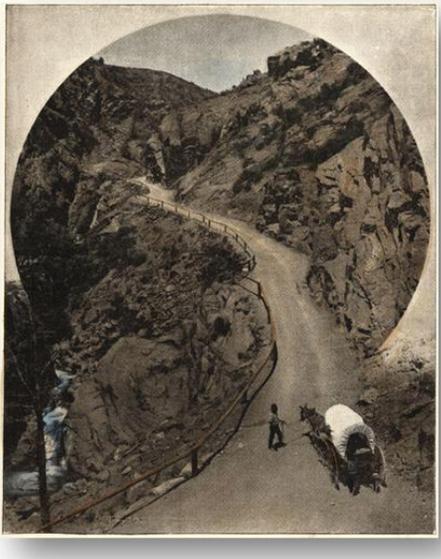


Figure-8

The early residents of the area included the Tabeguache, or Sun Mountain people, a band of the Ute Indian tribe. The children of the Sun Mountain were considered to be the spiritual leaders of the tribe. The Utes, unlike most western plains Indians, were generally not nomadic and made the Colorado and Utah mountains their homes. They were the experts on the land and were sought out for their guidance as the area developed. They recognized the Falls as a special place. The Falls were originally thought to be named after the rainbow seen in the mist that came from the waterfall. (PPHSM 2010)

Figure-8 is an advertising picture from 1892 taken after the heydays of the silver rush and at the beginning of the Cripple Creek District gold rush. The old road/trail would continue to be the gateway to the west until the building of a more modern road in the early 1930s.

The old wagon road that passed by Rainbow Falls was built in 1872. Because none of the mountain railroads had penetrated the southern Front Range or South Park yet, the road became a primary route for supplies and materials that would build the community in the western part of the State. It wasn't until the late 1870s that the Denver South Park and Pacific Railroad began laying track across the high plains and into gold and silver country. The Colorado Midland grade was cut through in 1884-1885. (Photo Compliments of the Denver Public Library)

## Historic Features Found in the Area

One of the dominating features of the site is the historic 1932 Highway 24 Bridge into Manitou Springs. This bridge crosses the creek at the Falls. The bridge is listed on the National Register

of Historic Bridges and is documented by the Colorado Historical Society. The bridge was one of many new bridges designed by the Colorado Department of Transportation in the 1930s and was noteworthy because of its technologically significant open-arching concrete structural design. While there were few of these bridges built during this period of Colorado bridge construction, this bridge at Rainbow Falls is one of six remaining bridges in the State in use today. (CDOT 2011)



Figure -9

The flood control dam seen in Figure 9 was built under the supervision of the National Forest Service (1930s) as a cooperative effort with the Works Progress Administration (WPA) and The Civilian Conservation Corps (CCC). This is just after its completion. Notice the old tree trunk on the hillside that can still be seen today. (Photo Compliments of the Pike Peak Public Library District)



Figure-10

As the horseless carriage became king of the road, the old modes of transportation fell by the wayside. There was a call for a more modern roadway. Grading had been completed for the new road into Manitou Springs and bridge construction began in early 1932 as shown in Figure 10. (Photo Compliments of the Denver Public Library)



Figure-11

A scenic overlook was constructed after the completion of the bridge in 1934. This wrapped around the hill on the top south east side of both Rainbow Falls and it offered views of the Falls and the valley below as shown in Figure 11. (Photo Compliments of Doug Edmondson, Private Collection)



Figure-12

Figure 12 is a picture of the old Ute Chief Bottling Works glass dump. The access and the dump can be found on the old access road to the Manitou Greenstone Quarry that can be seen in the background. (Photo Compliments of Doug Edmondson, Private Collection)



Figure-13

The equipment anchorages shown in Figure 13 are on the north side of the old shelf road. No one is quite sure why these are there or what their function was. (Edmondson 2010) (Photo Compliments of Doug Edmondson, Private Collection)

## Goals, Objectives and Priorities

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### Goals

1. *To provide a safe and unforgettable family recreation and open space destination for El Paso County residents and visitors.*
2. *To provide trailhead and trail amenities in support of the greater regional trail connections.*
3. *To preserve and celebrate the historic assets and memories of this unique community destination.*
4. *To stabilize and restore the environment of the creek, Falls and surrounding hillsides.*

Through a collaborative process with community partners and users, the planning team and County staff were able to define a project vision and provide goals, objectives and priorities for the Master Plan.

The following are key objectives and priorities defined through the planning process. Each topic area provides a list of short, mid and long-term priorities. The order of the plan topics are not ranked in any order of importance. See the following Implementation section for phasing and development costs.

### Objectives and Priorities

#### Trails and Recreation

The trails and recreation objectives are defined in support of recreation goals. The objectives focus on creating trails and trailhead connections, access improvements and park amenities. During the implementation and final design process, the improvements will provide “accessible” features and facilities such as trailhead parking, picnic and overlook sites and creek access, where feasible.

##### *Short-term (1-3 years)*

- Build the primary trail from the existing parking and historic markers to the Falls wide enough to provide maintenance and emergency access and enhance accessibility, to and from the Falls.
- Provide the first picnic overlooks along the creek.
- Re-stripe the road (Manitou Avenue/ Highway 24 access) and provide a two-way bike lane.
- Evaluate the need for a restroom facility.

##### *Mid-term (3-5 years)*

- Provide a creekside trail and overlooks.
- Provide interactive water features (play) along the creek below the Falls and picnic areas.
- Provide a creek crossing for additional trail connections in the area to the south and to the east parking lot.
- Enhance fishing and creek pool.

##### *Long-term (5-10 years)*

- Provide additional picnic sites and overlooks.
- Build out the south parking and trailhead amenities to support the regional trail connections to Pikes Peak, Williams Canyon and Waldo Canyon.

#### History and Culture

The historical and cultural objectives have been provided in support of the promotion and protection of the resources. Rainbow Falls has a unique story that should be preserved. It is

believed that the proposed objectives support on-going efforts to bring the story to life as resources become available.

*Short-term (1-3 years)*

- Provide a new covered kiosk with historical interpretive information from the 1800's through today.

*Mid-term (3-5 years)*

- Maintain and restore the historic weir in the creek and provide the story about the how, when and why it was built.
- Capture oral and written history of the Falls and the area. Post the information on the kiosk.

*Long-term (5-10 years)*

- Document the history of the bridge.

## **Natural Features and Environmental Restoration**

The Falls are a unique feature that the Master Plan seeks to protect, recognizing that the majority of the short-and long-term priorities will be in the restoration and stabilization of the site. The site has been heavily impacted by road construction over the years and the objectives seek to minimize further impacts. The primary focus will be on restoring the property and the creek corridor as close to its natural state as possible. This work will be coordinated with the U.S. Army Corps of Engineers and the Colorado Department of Transportation (CDOT). As part of the long-range restoration plans, the Fountain Creek Watershed, Flood Control, and Greenway District vision plan along with the U.S. Army Corps of Engineer 2005 watershed should be referenced for possible partnerships.

*Short-term (1-3 years)*

- Remove and clean up debris.
- Remove noxious weeds and develop a management plan. This may include volunteers and professional services.
- Start the stabilization of exposed slopes.
- Develop a landscape/vegetation management plan for planting and maintaining new trees and vegetation to enhance wildlife habitat value and aesthetic quality.

*Mid-term (3-5 years)*

- Provide interpretive signage.
- Work with natural resource agencies and groups to develop and implement an adaptive management plan.

*Long-term (5-10 years)*

- Research the removal of the bridge and create an alternative highway access plan for the City of Manitou Springs.
- Develop a long-range plan to reduce upstream erosion and sedimentation.
- Restore fishery habitat in the adjacent downstream areas.

## **Access, Safety and Security**

The access, safety and security objectives are focused on improving public access and safety and establishing the policies that will be used to maintain and manage the property for the long-term. This will include improving service access, providing limited area lighting and working with volunteers and local law enforcement agencies. The goals are to improve the current culture and the user environment to benefit County residents and visitors.

*Short-term (1-3 years)*

- Introduce vandalism-prevention programs.
- Enhance surveillance of the property.
- Enhance the existing access onto Serpentine Drive, parking area and control gate.

- Secure the use of the secondary parking lot.

#### *Mid-term (3-5 years)*

- Expand the parking area south of the trailhead along Serpentine Drive.
- Build a trail connection between the main and proposed secondary parking lots.

## **Rainbow Falls Art**

The Master Plan recognizes the interest and concerns around the topic of graffiti and park-appropriate art. Through the planning process, the following objectives were identified as a way of managing vandalism and directing the future of on- and off-site art programs and features.

#### *Short-term (1-3 years)*

- Clean up the existing site and remove graffiti.
- Explore an alternate off-site location for “graffiti art” through a partnership with the City of Manitou Springs and the Manitou Springs Arts Council (MSAC).
- Introduce art programs with local schools and art organizations to build creekside park benches and other installations.

#### *Mid-term (3-5 years)*

- Introduce more on-site park benches and trail markers via art projects with the local schools.

#### *Long-term (5-10 years)*

- Introduce on-site pavilion for art installations that reflect the history and art of the area.

## **Maintenance and Management**

The maintenance and management objectives have been designed to address operational concerns by establishing a sustainable method for managing trash/debris and providing repairs on a scheduled basis. The Master Plan also endeavors to maintain the strong partnership with local volunteers.

#### *Short-term (1-3 years)*

- Establish a regular maintenance schedule to keep parking lots and trailheads policed and clean.
- Continue regular volunteer clean-up schedules to promote community support and involvement.
- Post and maintain signage to make users aware of County rules and regulations.
- Install permanent trash receptacles and dog waste stations along the trail and at the Falls.
- Install a donation box to raise funds for the ongoing maintenance and improvements to the park.
- Implement practices, procedures and education to change the mindset of park users from one of vandalism to one of respect.

#### *Mid-term (3-5 years)*

- Prune and thin out the surrounding vegetation for a more open and welcoming atmosphere.
- Design landscaping to enhance native habitat, and plant new vegetation consistent with the landscape management plan.

## **Partnerships and Funding**

The partnership and funding objectives focus on the continued funding of improvements and supplementing of maintenance and operations. The objectives highlight the existing and potential project partnerships, budget goals and funding objectives.

#### *Short-term (1-3 years)*

- Target Phase 1 clean-up and facilities construction.
- Seek CDOT and U.S. Army Corps of Engineers partnerships.
- Identify local government financial and in-kind contributions.

- Seek funding, including matching funds.
- Maintain the Rainbow Falls Coalition as a focal point for coordination and cooperative projects.
- Continue to partner with M.E.C.A.
- Engage the Fountain Creek Watershed, Flood Control and Greenway District to advance mutual goals, objectives, funding and projects for creek bank stabilization within the creek corridor and around Rainbow Falls.
- Seek corporate and local business sponsorship.
- Seek Partnership opportunities with Pikes Peak Area Council of Governments

*Mid-term (3-5 years)*

- Target priorities for facilities construction and improvements.
- Maintain partnerships.
- Seek funding.

*Long-term (5-10 years)*

- Target priorities for facilities construction and improvements.
- Maintain partnerships.
- Seek funding.
- Update the Master Plan at least every five years.

## The Plan

The overall goal of the Master Plan is to layout a series of implementation actions for the redevelopment and restoration of the Rainbow Falls. The planning team has sought to create a safe and family oriented recreation destination by providing trails, park amenities and a stabilized creek and hillside environment. The following plan areas illustrate proposed improvements and management actions.

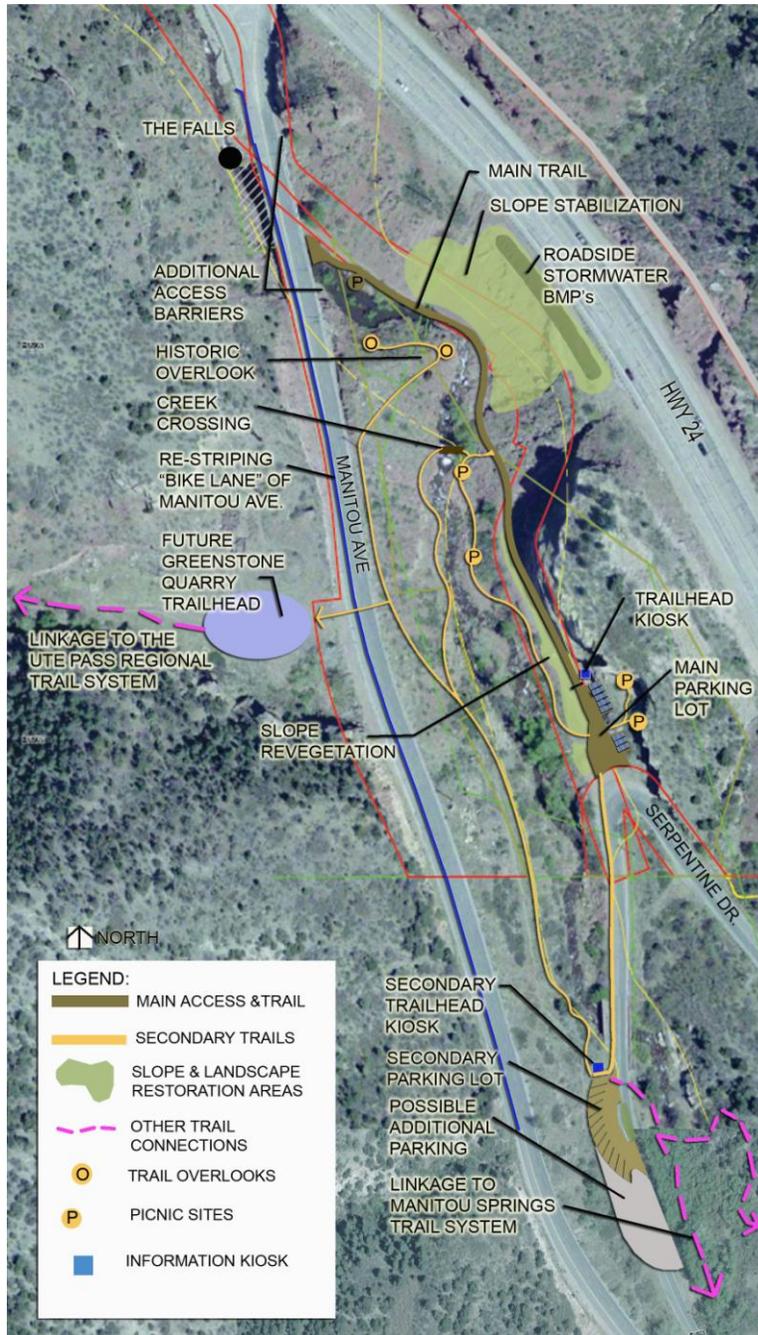


Figure 14-Redevelopment Plan

### Access points

As indicated by the community questionnaires conducted as part of the public process, the majority of visitors to the Falls arrive in private vehicles. There is currently no or only proposed vehicular access to the Falls beyond the designated parking area, except for emergency and maintenance services.

The Master Plan recognizes two parking areas. The primary parking lot is located along Serpentine Drive. This is recognized as the primary access point and the facilities will be expanded and improved with the first phase of redevelopment. The improvements will include the clearing of some additional parking, curbing and an access gate to control access beyond this point. An information kiosk will also be constructed here and will provide the primary point of recreation, history and information for visitors.

The second parking lot identified is off-site and is located south along Serpentine Drive approximately 100 yards from the main parking area. This area is currently between the Serpentine Drive and Manitou Avenue rights-of-way and is informally used by the city of Manitou for snow storage and some trail users. The plan would be to formalize an agreement for

the use of the parking lot and improve the area with trailhead amenities. The plan would also include the development of a trail link between the two parking areas to assure a safe path for visitors.

A third access point has been identified on the east side of the creek. The plan illustrates a possible future connection to a trailhead opportunity and trail connection at the historical Greenstone Quarry site. While this property is in private ownership today, it has been identified as a future access point as in the City of Manitou Springs trails and open space plans.

The last access point to be considered is north and up at the bridge level. The plan recommends that all potential parking and access points be eliminated for the safety of visitors and users of the Manitou Avenue access ramp to Highway 24. Over the years Colorado Department of Transportation (CDOT) has placed barriers along the bridge approaches to curb parking and pedestrian access. This should be continued and the access further restricted to eliminate possible auto/pedestrian conflicts.

## **Regional Trail Connections**

As part of the original focus of the Rainbow Falls and Ute Indian Trail Feasibility Study in 2008, linkages from Rainbow Falls and the area regional trails were identified. The Master Plan illustrates three possible alignments for the Ute Indian Trail connection, now known as the Ute Pass Regional Trail. While there have been several discussions with the adjacent private land owners, there are no agreements to secure the required easement for the implementation of any of the studied connections at this time. The City of Manitou Springs and the County will continue to work with land owners/developers to secure easements as part of the development process.

The plan also illustrates two other trail connections. The first is the connection with the City of Manitou Springs Creek Trails System. The connection south along the creek would link to the south secondary parking lot and provide access to Higginbotham Flats and potential future trail connections over to the Williams Canyon trails. The last trail connection is in support of the Ute Pass Regional Trail and the American Discovery Trail (ADT) system. The Ute Pass Regional Trail is the major regional trail system that reaches from Colorado Springs west to Woodland Park and the ADT uses the same alignment. Users of the trails today could greatly benefit from the trailhead amenities planned for the site, and they could also benefit from the re-striping of Manitou Avenue from a three-lane to a two-lane road. The plan is to capture the space along the west side of Manitou Avenue for a full two-way bike lane, improving the access and safety through this narrow section from Highway 24 into Manitou Springs. This improvement would also support the future trailhead improvements at the Greenstone Quarry.



Figure-8, Ute Pass Regional Trail Linkage Options

## On-Site Trails

The major trails within the project area will provide access from the parking areas to the Falls, the creek edge and to the designated picnic and overlook sites. The main trail from the parking area to the Falls will be designed as a Tier 1 trail per County standards to provide emergency and service vehicle access. This will be included in the first phase of Master Plan implementation. This project will require the collaborative efforts and permitting with the U.S. Army Corps of Engineers and CDOT since the trail touches on the edge of the creek and will pass across a portion of CDOT right-of-way. The proposed improvements and the final design will need to consider the permitting, grades, structural, costs and user impacts as referenced in the trail standards in the Appendix. The possible alternatives will provide the construction of a 10-foot wide trail bench and retaining walls to minimize the impacts to the creek flow line and stabilize the adjacent slope. The goal is to find a balance in the construction and environmental impacts during this phase of the work. The trail surface will be finished with compacted crushed limestone. The remaining trails on the site will be constructed as walking paths per the Tier 4 (18"-24") trail standard. The site clearing, steps, and grading of the smaller trails could be constructed by volunteers.

One trail creek crossing is proposed, completing the internal loop trail and providing an alternative route to the historic creek overlook. The crossing is proposed at the historic flood control dam/weir in the creek. The Master Plan proposes the installation of a 30-foot pre-fabricated steel bridge. The other trail on the west side of the creek will provide access to the historic overlook.

The trail will switch back and traverse the steep western slope created by the construction of Manitou Avenue. Neither of the western trails will be built to meet “accessible” (ADA) standards due to the topography and site conditions, but in character with the nature of the historic overlook, a hand/guardrail will be installed to aid visitors along the trail and to control access to the overlook itself.

## **Other Amenities**

Complimenting the restoration plans and trail implementation, the Master Plan illustrates the development of picnic sites, small creek overlook areas, and bench and creek edge improvements near the Falls. The improvements will also provide small interpretive stations (signage) along the main path. All of the improvements are to be integrated into the natural setting of the property and constructed with indigenous materials when possible. Some consideration has been given to introducing benches and tables that have a more artistic theme to them. Note the objectives under the “Art” sections of the Objectives and Priorities. The art tables and benches are not to dominate the park improvements, but they are to be used to capture the community’s culture and history.

## **Environmental Restoration and Bank Stabilization**

Restoration plans include stabilizing the large Highway 24 (CDOT) slope, implementing a noxious weed control program and a vegetation management plan including revegetation for the remaining slopes and exposed areas, and the removal of the years of paint and graffiti from the bridge and natural rock faces.

The two major tasks to be addressed initially in the Implementation Plan are slope stabilization associated with the Highway which will facilitate access to the Falls, main trail construction and graffiti removal. These tasks were identified as high priorities through the planning process.

The construction of the main trail and access will be constructed concurrently with slope stabilization. Slope stabilization will start with the removal or relocation of the large boulders that lie loose on the slope. This work should be done in conjunction with CDOT to assure the results protect future visitors from falling materials. The work should also consider drainage concerns along the top side of the slope to reduce erosion. The Implementation Plan involves work with CDOT to install Stormwater Best Management Practices (BMP’s) and will maintain and monitor the improvements per CDOT standards. The slope will then be treated with a mixture of compost and top soil to support seeding and erosion control efforts.

The second major task, once access is provided, will be the removal of graffiti. The County has secured U.S. Army Corps of Engineers permitting to allow temporary redirecting of the creek flow and covering of creek edges with temporary plastic sheeting to collect paint and sand particles from the proposed sandblasting operation. The County will be partnering with the City of Colorado Springs to bring equipment to the site to remove the paint from the rock faces. The second half of the graffiti removal will include repainting of bridge piers and under-decking. The graffiti removal will help bring the focus back to the natural environment of the Falls.

## Implementation

The following implementation plan was developed as part of a collaborative process with key community partners. While it reflects the today's priorities and grant funding opportunities, the later strategies and individual tasks may vary depending on available funding. The estimates of probable cost have been provided to assist in budgeting and pursuit of grant funding. The cost estimates have been determined from a preliminary review of current construction practices, costs and grant funding agreements. The proposed improvements and management actions will require detail design and evaluation prior to final implementation plans.

### Capital Cost Estimates

Item	Description	Cost
<b>Component #1 - Park Improvements (Funded by Great Outdoors Colorado (GOCO) LOPR Mini Grant)</b>		
Trails	Install trails, including contracting, development of tread, and strategic placement of rocks	\$ 15,600.00
Park amenities	Purchase and install benches, tables, trash receptacles, and dog waste stations	\$ 7,414.00
Hand rail	Purchase and install new hand rail at the Falls overlook	\$ 9,811.79
Parking lot and access	Improve parking area , including contracting, site preparation, asphalt surfacing, guardrail, and improved access onto Serpentine Drive	\$ 15,642.50
	County in-kind contribution	\$ 10,600.00
	<b>Total</b>	<b>\$ 59,068.29</b>
<b>Component #2 - Security Enhancements</b>		
Security camera systems	Purchase and install 2 security camera systems	\$ 16,000.00
Graffiti removal equipment	Purchase graffiti removal equipment	\$ 594.80
	County in-kind contribution	\$ 9,600.00
	Colorado Springs Police Department in-kind contribution	\$ 2,955.00
	<b>Total</b>	<b>\$ 29,149.80</b>
<b>Component #3 – US Highway 24 Erosion/Bank and Creek Stabilization (Funding to be determined)</b>		
Bank and creek stabilization	Address erosion caused by Highway 24 and stabilize bank and creek edge with rock work and drainage improvements; provide drivable service access to the Falls and bench for Tier 1 Trail	\$250,000.00 – \$500,000.00*
	<b>Total (preliminary estimate)</b>	<b>\$250,000.00 - \$500,000.00</b>
<b>Component #4 – Other Improvements to Implement Master Plan (Funded by Regional Park Fees or others)</b>		
Kiosk	Install a covered kiosk with historical interpretive information	\$ 12,000.00
Foot Bridge	Obtain and install prefabricated steel bridge, approximately 30 feet long.	\$ 10,500.00
Noxious weed management	Remove and/or treat noxious weeds	\$ 3,000.00
Signage	Post and maintain signs for wayfinding and to make users aware of rules and regulations	\$ 600.00
Donation box	Install a donation box at the trailhead area to raise funds for ongoing maintenance and future improvements	\$ 100.00
	<b>Total (preliminary estimate)</b>	<b>\$ 26,200.00</b>
	<b>Total for all components</b>	<b>\$364,418.09 -\$614,418.09</b>

\*Preliminary engineering estimates needed to refine cost

## On-Going Maintenance and Management Objectives

- Implement practices, procedures and education to change the mindset of the park users from one of vandalism to one of respect.
- Establish an on-going partnership program to improve in-kind support, match funding opportunities, and build local long-term partners in the restoration vision.
- Potential Funding Partners: CDOT, U.S. Army Corps of Engineers, local corporate and small businesses, M.E.C.A., City of Manitou Springs, Fountain Creek Watershed, Flood Control and Greenway District, the Rainbow Falls Coalition and the Pikes Peak Area Council of Governments.
- Schedule 2 volunteer clean-up days per year.

### Rainbow Falls Master Plan Estimated Maintenance Costs

Routine Maintenance	Action Items	Current Annual work hrs	Estimated Annual work hrs	Current Annual Costs (\$14/hr)	Estimated Annual Costs (\$14/hr)
General Maintenance-Summer	Trash removal, amenity maintenance and other routine grounds repair & maintenance (28 weeks)	112	168	\$1,568	\$2,352
General Maintenance-Winter	Trash removal, sign & fence maintenance (24 weeks)	48	72	\$672	\$1,008
General repair and maintenance supplies	Herbicides, seed, topsoil, signage, trash bags, cleaning and equipment maintenance			\$250	\$1,525
Vandalism Repair/Replacement	Vandalism Repair / Replacement Materials/Soda blasting graffiti on rocks/bridge (First 2-3 years cost estimates)			\$1,065	\$2000
Electrical Costs	Electrical Costs (2010)			\$0	\$600
2 Picnic Pads, tables Cleaning-Summer	Sweeping, trash removal, power washing (28 weeks)	0	35	\$0	\$490
Turf Maintenance	N/A			\$0	\$0
<b>TOTAL</b>				<b>\$3,555</b>	<b>\$7,975</b>

# RAINBOW FALLS MASTER PLAN

El Paso County Parks

Periodic Maintenance					
Vegetation Maintenance	Weed control	8	80	\$112	\$1,120
Vegetation management (native seeding)	Native plant reseeding, restoration and erosion control	0	80	\$0	\$1,120
Painting Maintenance	Paint tables and trash cribs, access gate	5	5	\$70	\$70
Snow Removal	clearing sidewalks and trailheads (average 18 events)	0	18	\$0	\$252
<b>TOTAL</b>				<b>\$182</b>	<b>\$2,562</b>
Other Maintenance					
Trail Maintenance Tier I - First three seasons	Tier I \$1,000 per linear mile / year : Box blading and surface repair.			\$0	\$630
Trail Maintenance IV	\$400 per linear mile / year : Box balding and surface repair			\$0	\$210
Gravel Parking Lot Maintenance	Grading, box blading (5 hr - 4 times year)	30	0	\$420	\$0
Asphalt Parking Lot Maintenance	Asphalt repair, sealing, sweeping, striping, crack filling, cleaning and sweeping as needed.			\$0	\$150
Forestry management	Tree pruning, thinning, removal, and fire mitigation	0	52	\$0	\$728
<b>TOTAL</b>				<b>\$420</b>	<b>\$1,718</b>
<b>Total Estimated Annual Maintenance Costs</b>				<b>\$4,157</b>	<b>\$12,255</b>

Fleet equipment & gas costs directly associated with maintenance operations were not calculated.

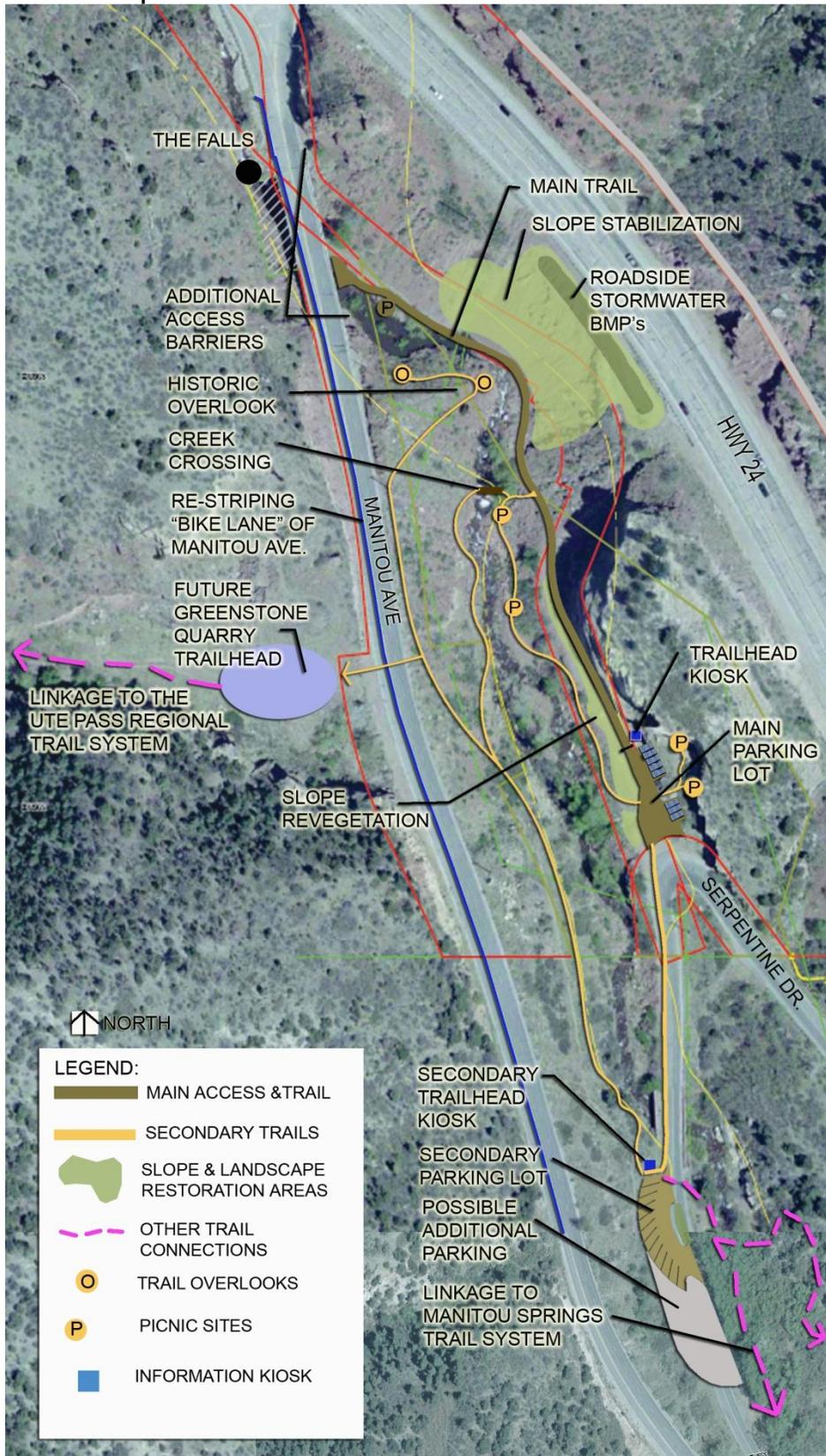
## References and Resources

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12. U.S. Army Corps of Engineers. 2009. *Fountain Creek Watershed Study and Watershed Management Plan*.
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**Appendix**

Redevelopment Plan



## EPC Trail Design Standards

El Paso County. 2005. *El Paso County Parks and Leisure Services Department Master Plan*, as amended. Colorado Springs, CO.



**Tier 1**, Trail, 8-foot wide average compacted crush limestone trail surface with shoulders

Purpose: Multi-use



**Tier 4**, 4-foot wide average compacted crush limestone or native soil surface

Purpose: Remote hiking access

## U.S. Highway 24 Erosion/Bank and Creek Stabilization

The preliminary diagram and cross section study illustrates two possible alternatives for the main access trail and bench. The final design will take into account the balance of design considerations such as:

- U.S. Army Corps of Engineers Permitting Impacts
  - Low water flow limits
  - Alternatives and total area of “low flow” impact
  - Determine the level of Corps nation-wide permitting requirements
- Grades and Access Impacts
  - Access for service and emergency trucks
  - Access and visitor-friendly grades to Falls and creek
  - Environmental impacts
- User Impacts
  - User want to be at the water
  - Creek protection and enhancements
  - Safety, access, and the environment

- Cost Impacts
  - Engineering
  - Permitting
  - Import/export
  - Construction
  - Maintenance

## Preliminary Cross Section Study

