

Arroyo Hondo
Open Space
Management Plan



January 2008

Santa Fe County Open Space and Trails Program

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INTRODUCTION

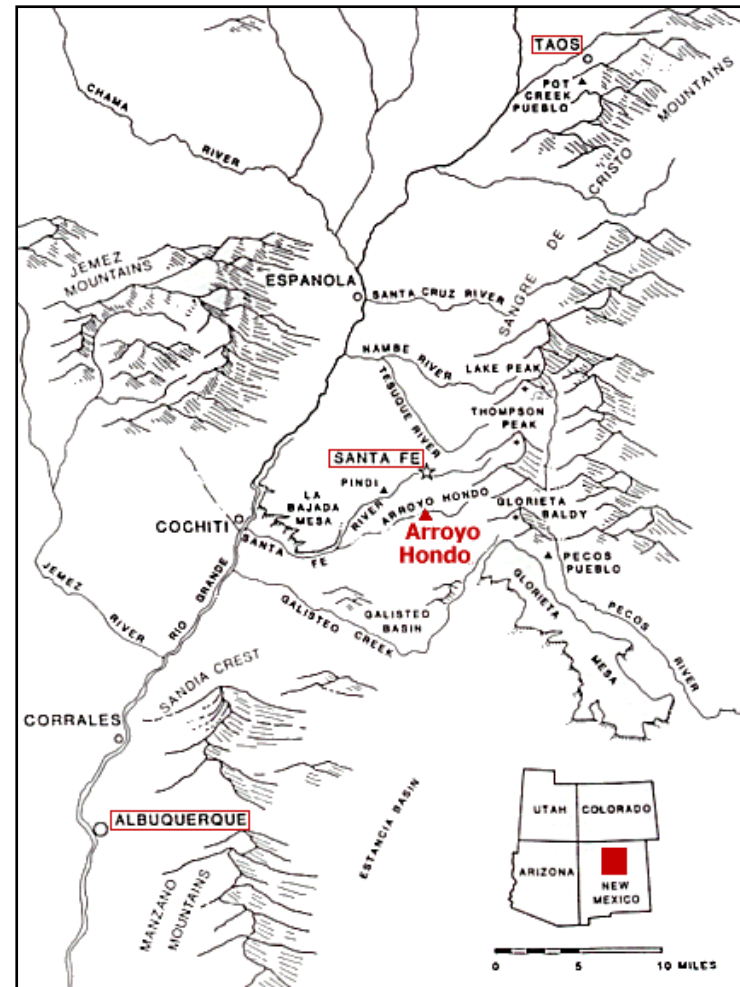
Purpose of the Plan

The purpose of the Arroyo Hondo Open Space Management Plan is to guide the protection, interpretation, and monitoring of cultural and natural resources, as well as ecological enhancements, visitor management, site stewardship and maintenance.

Site Description

The Arroyo Hondo Open Space is an 86-acre parcel located southeast of Santa Fe, within the Sebastian de Vargas Land Grant. The Arroyo Hondo, a seasonal stream, flows along the southern boundary of the parcel. Interstate 25 is at the eastern boundary. The site is accessible from Arroyo Hondo Road to the south or from Old Agua Fria Road at the east boundary. Low-density residential private property is to the west and north.

The property is a healthy ecosystem dominated by piñon and juniper. The Arroyo Hondo forms a canyon with riparian vegetation along the southern edge of the parcel. Above a historic dam, the Arroyo Hondo forms a seasonal wetland. The property features outstanding panoramic views.



Map courtesy of School of American Research

Summary of Acquisition

In 2001 the Reid family put the property up for sale as residential housing lots. At this time neighbors and community members came together to ensure that the site remain as open space. They formed the Arroyo Hondo Open Space Committee to develop a plan for purchasing the property with the Santa Fe Conservation Trust as the fiscal agent. In 2002 the committee raised one third of the funds needed through donations from more than 112 Arroyo Hondo residents. The Reid family agreed to lower the price by one third and the County contributed the remainder. The committee also raised money for site management and maintenance. These funds are managed by the Santa Fe Conservation Trust and reside in an endowment with the Santa Fe Community Foundation. The County owns the property, and the Santa Fe County Open Space and Trails Program is responsible for management of the property.

Planning Process

After the property was acquired, the Santa Fe County Open Space and Trails Program led a community planning process to determine what the future management of the property would be. The intent of the process was to address the following topics: evaluation of site resources, suitable public uses of the property, potential site design, and community stewardship capabilities. This plan is the result of the community feedback as well as additional background research.

Two public meetings were held in August of 2005 and July 2006, and an on-site tour took place in August 2006. Comments were collected from questionnaires and verbal feedback. There was consensus on a desire to have trails and to make the property available for education and research. There was also a preference for leaving the site in a natural state with little development other than trails.



EXISTING CONDITIONS

Natural Resources

The Arroyo Hondo Open Space ranges from 7000 feet to 7300 feet in elevation. The property is predominantly steep with rocky granite slopes. Although there are several species of non-native invasive species, and numerous dead trees that succumbed to drought and bark beetle infestation, the site is relatively undisturbed. There is a healthy understory of grasses and forbs, however much of the understory is sparsely vegetated decomposed granite. One graded dirt road crosses the property, and does have the potential for increasing erosion if left in its current state.

Piñon-juniper woodlands are the predominant habitat along the upper slopes. Behind the dam, a wetland has formed. At the foot of the dam is a perennial pool of water. Below the dam, the arroyo has cut a deep canyon. The canyon bottom is a riparian area with a variety of trees and shrubs along the waterway. The presence of water and the diversity of vegetation provide excellent habitat for wildlife, especially birds. Due to the location of the large underpass below Interstate 25 and the riparian corridor, it is suspected that this is an important wildlife movement corridor. However, there has been no research or documentation specific to the property to determine which species may be utilizing this corridor or the property as a whole.



Typical Vegetation of the Arroyo Hondo Open Space

<p>Trees Juniper <i>Juniperus monosperma</i> Pinon <i>Pinus edulis</i></p>	<p>Shrubs Apache Plume <i>Fallugia paradoxa</i> Chamisa <i>Chrysothamnus nauseosus</i> Mountain Mahogany <i>Cercocarpus montanus</i></p>
<p>Grasses Blue Grama <i>Bouteloua gracilis</i> Ring Muhly <i>Muhlenbergia torreyi</i></p>	<p>Forbs Snakeweed <i>Gutierrezia lucida</i> Broomweed <i>Gutierrezia sarothrae</i> Fleabane <i>Erigeron sp.</i></p>
<p>Cacti Cholla <i>Opuntia imbricate</i> Prickly Pear <i>Opuntia sp.</i> Claret Cup <i>Echinocereus triglochidiatus</i></p>	



Forest Health Restoration Project

In 2004, the US Forest Service awarded Santa Fe County Fire Department a grant for a collaborative forest restoration pilot project on the Arroyo Hondo Open Space. The Santa Fe Partners for Forest Restoration formed to oversee the project, and included representatives from the County Fire Department and the County Open Space and Trails Program, Santa Fe Conservation Trust, Bureau of Land Management, State Forestry Division, New Mexico Environment Department, Santa Fe National Forest, and the New Mexico State University Cooperative Extension Service.

The project's objective is to identify best practices for reducing the chances of catastrophic wildfire in piñon-juniper woodlands as part of a larger goal to improve forest health. Public participation and education play key roles in this project, which is intended to provide landowners with opportunities to understand and apply fire-reduction practices on their own lands. There are thirty ¼ acre plots demonstrating six different treatments. An interpretive trail has been proposed to view the six different methods and will feature interpretive signage on the changes over time along with opportunities for visitors to learn about home applications of fire reduction principles

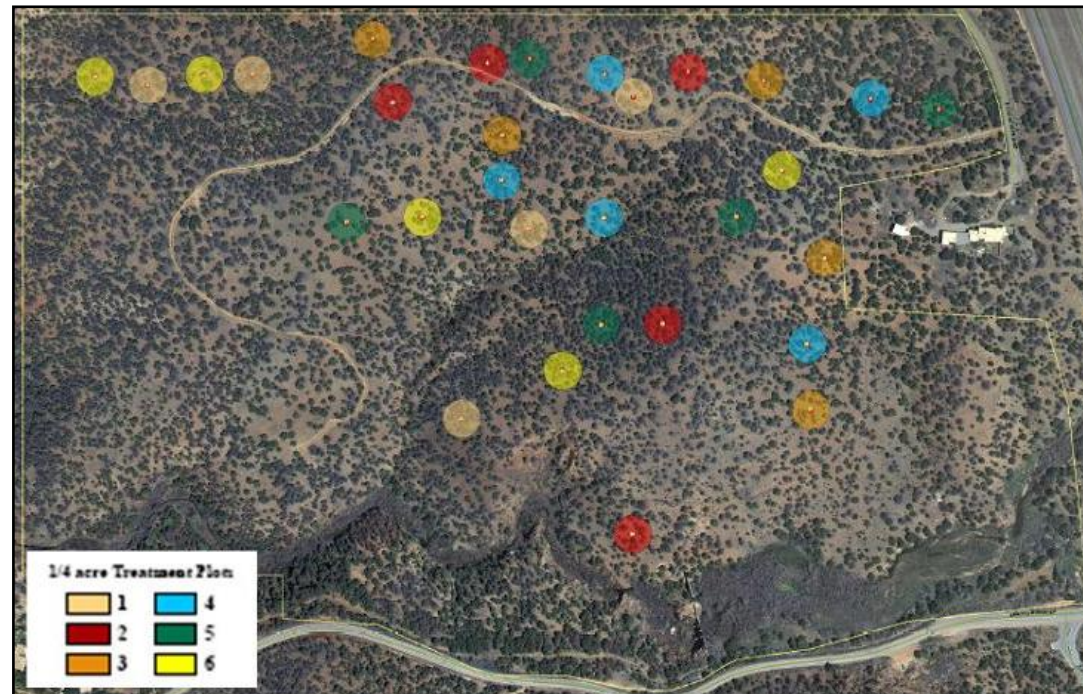


Before and after
view of one of the
treatment plots



Forest Restoration Treatment Plots

1. Cut all dead and leave in place, minimizing disturbance in treatment area.
2. Thin to 10-15 trees per $\frac{1}{4}$ acre plot. Lop and scatter all material under 3" diameter and haul away larger material.
3. Thin to 10-15 trees per $\frac{1}{4}$ acre plot. Lop and scatter all material under 1" diameter and haul away larger material.
4. Thin to 10-15 trees per $\frac{1}{4}$ acre plot. Use all live and dead standing material in the plot. Chip the material and cover the ground with 1-2" of mulch.
5. Thin to 10-15 trees per $\frac{1}{4}$ acre plot. Use all live and dead standing material in the plot. Create berms and swales to use for erosion control in steeper areas.
6. Control sites or baselines to compare effects of various treatments as well as results of leaving the area untreated.



Cultural Resources

The Arroyo Hondo Open Space sits at the center of a region of rich and diverse history. The site is between the upper and lower Arroyo Hondo Pueblos, both of which are visible from the site. The lower Arroyo Hondo Pueblo (west of the property) has been documented extensively in seven titles published by the School of American Research, which excavated and cataloged the site from 1971-1974. At its peak, this Pueblo contained approximately 1,000 rooms. It was occupied at various times from A.D. 1300 until A.D. 1425. The location of this settlement can likely be attributed to the water available from the Arroyo Hondo and springs located along the arroyo.



View of the Arroyo Hondo Pueblo from the County Open Space

After Spanish colonization the site became part of the Captain Sebastian de Vargas' Land Grant of 1710. The land was granted to Captain Sebastian de Vargas' for his military service and was sold in 1742 to Tomas Antonia de Sena, a blacksmith and armorer by trade, and a community leader who served as Alcalde (Mayor) of Galisteo and of the Pecos Pueblos.

The Arroyo Hondo Open Space is located at a historically significant transportation corridor now dominated by Interstate 25. It has also been the route of the Santa Fe Trail, the Pecos Trail, the Old Las Vegas Highway, and Route 66. The high point of the property can be seen from this historic corridor, and even today forms the gateway into Santa Fe for those traveling west.

The most visible cultural feature on the property is the remnants of a concrete dam across the Arroyo Hondo. In the late 19th century, railroad prospecting marked the beginning of New Mexico's Territorial era, and in Santa Fe developers envisioned two suburbs of Santa Fe linked by the railroad. Just as with other rapidly expanding western communities at the turn of the century, Santa Fe's expansion relied on the development of more reliable water supplies. The September 13, 1909 edition of "The Santa Fe New Mexican" mentioned that "work commenced today on the largest irrigation project ever undertaken in this vicinity". In 1910, a Chicago banker named G. Franklin Flick became the president of the local U.S. Bank and Trust Company. Flick convinced other Chicago bankers to invest in irrigating the deserts of the West, and a dam across the "Hondo River" was begun.

Before the dam could be completed, however, a flood on July 15, 1912 broke through the poorly constructed concrete work. Construction never resumed and the dam was left as it is today. Also remaining are two relic dirt roads, one of which served the project's rock crushing operation. Another, higher road served as an observation platform allowing the public to witness work in progress. This upper road still offers excellent views of the riparian area, the dam, Arroyo Hondo Pueblo ruins, and, in the distance, the Galisteo Basin, and the Ortiz and Sandia Mountain Ranges.



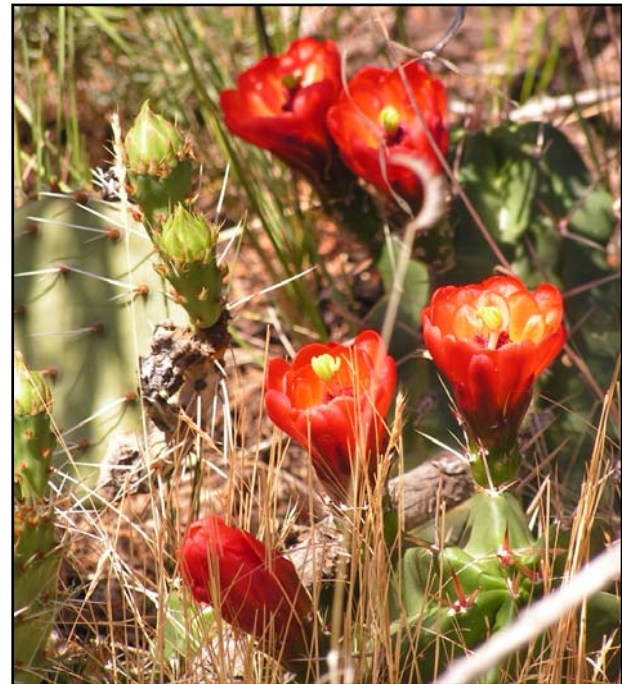
MANAGEMENT GUIDELINES

Vision for the Arroyo Hondo Open Space

The vision for the Arroyo Hondo Open Space is to provide a public natural area that preserves the site's cultural and natural features, provides low-impact recreation, research, and education on the ecology, archaeology, and restoration of the site and its surroundings.

Management Goals:

- Maintain and enhance a healthy ecosystem.
- Design low-maintenance site amenities that protect resources and provide access for the public.
- Preserve, protect, and interpret the cultural resources.
- Develop recreational and interpretive trails.
- Provide interpretation and education for visitors as well as to utilize the site as a living laboratory for students.
- Create a community stewardship program.



Natural Resource Management

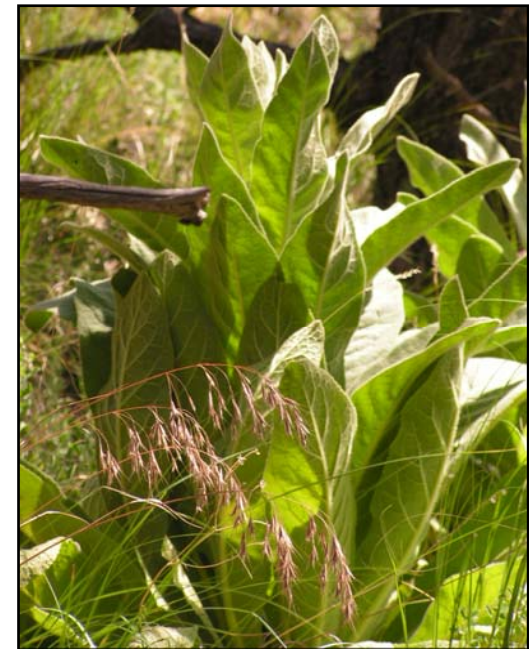
Goal: Maintain and enhance a healthy ecosystem.

Management Objectives

1. Work collaboratively with multiple partners to develop and implement resource management strategies.
2. Control the spread of non-native plant species.
3. Develop a long-term forest health monitoring program to assess general forest health and monitor the treatment plots.
4. Protect and enhance the wetlands and riparian areas.
5. Protect and enhance wildlife habitat and wildlife migration corridors.

Implementation strategies:

1. Identify erosion problems and implement erosion prevention measures.
2. Reconstruct the existing road to improve drainage and discourage erosion.
3. Inventory plant species and control the spread of non-native plants.
4. Coordinate with partners to protect, restore and enhance the wetlands and riparian corridor.
5. Coordinate with partners to develop programs with schools and other organizations to monitor and maintain forest and wetlands health by using the site as an educational and research tool.



Non-native plant species: Cheatgrass and Mullein

Cultural Resource Management

Goal: Preserve, protect, and interpret the cultural and historic resources.

Management Objectives:

1. Protect cultural resources from human-caused degradation.
2. Interpret the site's significant cultural resources, as well as the adjacent Pueblo as viewed from the property. (see "Interpretation and Education" below).

Implementation Strategies:

1. Use signs, other media, and/or live programming to interpret the cultural resources as identified in an interpretive planning process (see "Interpretation and Education" below).
2. Create a photo database of existing conditions of visible cultural resources, and monitor over time for significant changes.
3. Install a fence around the dam for visitor safety and resource protection.
4. Inventory cultural sites by documenting each feature with GPS and photographs.

Acequia along
the Arroyo Hondo



Visitor Management

Goal: Provide recreational opportunities for the public.

Management Objectives:

1. Develop a multi-use recreation trail system that offers opportunities to view on-site resources and the surrounding landscape.
3. Develop informational, regulatory, and interpretive signage for visitors.
4. Install safety and protective measures that will protect visitors and resources.

Implementation Strategies:

1. Construct a trail system that will guide visitors throughout the property while avoiding sensitive resources.
2. In cooperation with the Forest Restoration Partnership, construct access trails to selected forest restoration plots and install signage explaining the various treatment methods.
3. Install interpretive signage along the trail system that would provide educational information about the site and region.
4. Install fencing around the dam to prevent disturbance to the historic dam (such as graffiti) and keep visitors from the dangerous drop-off.
5. Create a visitor parking area with a sign kiosk that will provide information and a map of the trail system.



Interpretation and Education

Goal: Provide interpretation and education for visitors and offer the opportunity for schools and organizations to use the site as a living laboratory.

Management Objectives:

1. Create interpretive programming to create awareness of the significance of the cultural and natural resources.
2. Support the development of a land stewardship ethic in the visiting public.
3. Create opportunities for an environmental education program that is integrated with school science education programs.

Implementation Strategies:

1. Create an interpretive plan to identify the following: target audience interests and background knowledge; specific learning and behavioral objectives for interpretation; key messages to be delivered through interpretive programming; and appropriate media and services for message delivery. Involve a variety of community members in the development of the plan.
2. As determined through the interpretive planning process, develop interpretive amenities that may include: live programs such as guided walks, demonstrations, and tours; media such as signs, website, brochures; support facilities (observation sites, spotting scopes, shade ramadas, benches, and visitor and bus parking).
3. Develop partnerships between the County and organizations that could provide educational programming and/or interpretive content for signage and programming.

Site Stewardship

Goal: Create a community stewardship program.

Management objectives:

1. Establish a volunteer stewardship program that will attract individuals and groups to work cooperatively with the County and other partners on site maintenance, monitoring, education, and other activities.

Implementation Strategies:

1. Design a reporting mechanism that would notify the County of problems and needs related to the site.
2. Train volunteers on appropriate maintenance and monitoring techniques.
3. Encourage volunteers and partner groups to work together to provide educational programming activities.
4. Develop a stewardship program that includes scheduled events for maintenance, monitoring and education.

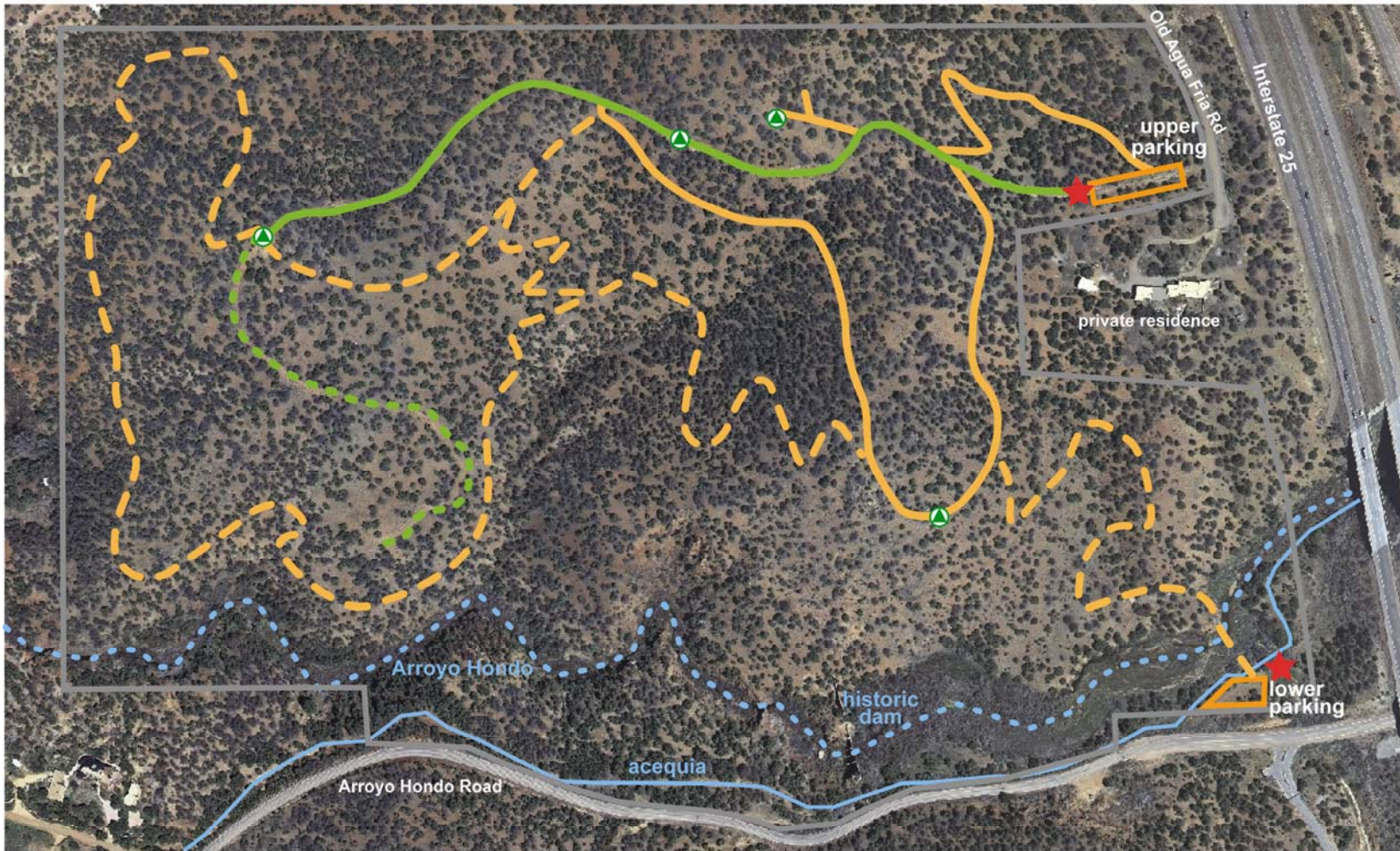
Site Design

Goal: Design low-maintenance, ecologically sensitive site amenities to protect resources and provide access for the public.

Design Objectives:

1. All improvements will avoid the disturbance of cultural resources.
2. All improvements will be designed and constructed to avoid disturbance of natural resources.
3. All improvements will be compatible with the site in color, design, and location.
4. All structures will be constructed of durable, low-maintenance, vandal resistant, and environmentally responsible materials.
5. Design considerations will include minimizing impacts to neighboring properties.

Arroyo Hondo Open Space Master Plan



Built Trail



Proposed Trail



Road Revegetation



Road to Trail Conversion



Trailhead Sign Kiosk



Scenic Viewpoints with Benches and/or Signs



This map is for planning reference only - locations are approximate.



Proposed Site Amenities:

The following site improvements will be completed as funding and resources are available.

Site Protection:

- Fencing around dam for visitor safety and resource protection.
- Fencing and/or boundary signs (“private property beyond this point”) along portions of the property boundary to prevent motorized vehicle access and to delineate the open space boundary.
- Park entry signs.
- Improve the existing dirt road with low-maintenance drainage features, and close portions of the road that are unnecessary and/or impact sensitive cultural and natural resources

Planned Improvements

- Construct trail system
- Construct parking lot(s)
- Install trailhead kiosk(s) with informational and regulatory signage and maps at the parking lots
- Interpretive and Educational Amenities (interpretive signs, viewpoints, benches)
- Restroom
- Picnic tables, benches and/or shade structures

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