

2015

Low Gap Park Trail Plan



Neil Davis, Executive Director
Ukiah Valley Trail Group
12/14/2015

1. Exec Summary
2. Project Scope
 - a. Background
 - b. Need
 - c. Methodology
3. Park Areas
 - a. Dog Park
 - b. Picnic Areas
 - c. Disc Golf
 - d. Archery Range
 - e. Tennis Courts/ Skateboard Park
 - f. PAR Course
 - g. Amphitheater
4. Existing Roads
5. Existing Trail Descriptions and Recommendations
 - a. North Orr Creek Trail
 - b. South Orr Creek Trail
 - c. Lower Canyon Creekside Trails
 - d. "Maple Hill" Trail
 - e. Canyon Creek Trail
 - f. Orr/Canyon Connector Trail
 - g. Unrecognized Canyon Creek Short Cut Trail
 - h. City View Trail
 - i. "Picnic" Trail
 - j. Red Arrow Trail
 - k. "Walkway" Trail
6. Proposed Trails
 - a. Canyon/City View Connector Trail
 - b. Upper City View Trail
 - c. ADA/ABA Access Trail
 - d. Orr Creek Greenway Connection
 - e. Maple Hill View Spot Trail
7. Undesirable Goat (Use) trails
 - a. Trail to the U
 - b. Short cuts
8. Trail Removal
9. Signage
10. Benches and Picnic Tables
11. Creek Access Facilities
12. Caretaker Area
13. Trail Name Auction Plan
14. Bridges

Appendix

The Universal Trail Assessment Process

Universal Trail Assessment Plan Example

Design and Maintenance Standards

Maps

Map #1 – All Trail Map

Map #2 – Park Resources Map

Map #3 – Truck Roads

Map #4 – Lower Canyon Creek/Maple Hill Use Trails

Map #5 – Canyon Creek Reroute

Map #6 – Canyon Creek/City View Connector Trail

Map #7 – Upper City View Trail

Map #8 - Accessible Trail

Map #9 – Orr Creek Greenway

Glossary

References

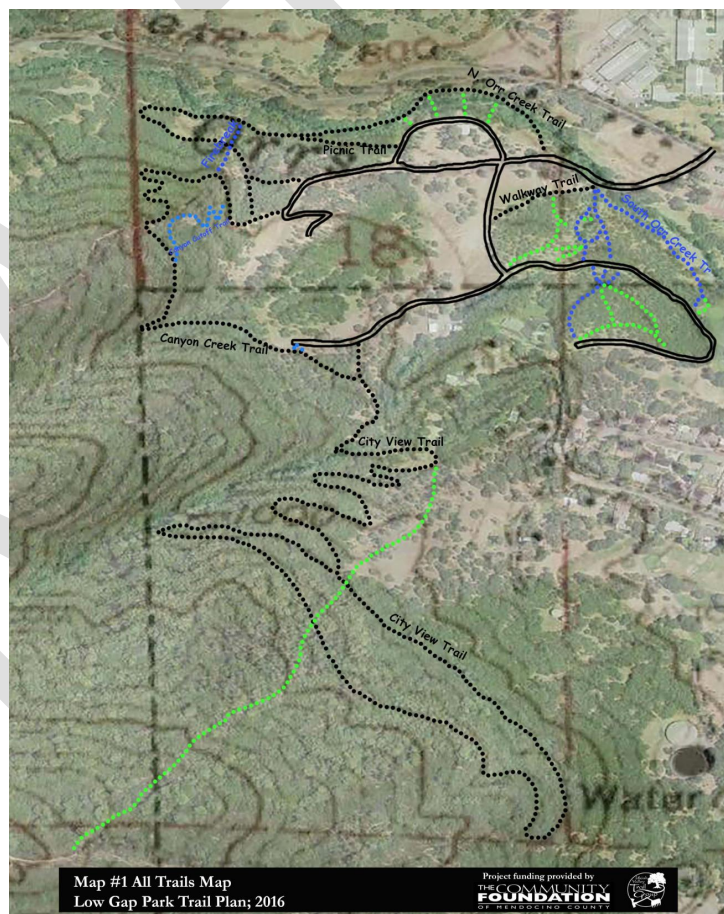
Acknowledgements

Executive Summary

Low Gap Park, located on the western edge of Ukiah, is Ukiah's largest and most popular park. The park is home to a wide variety of recreational resources including a skate park, tennis courts, picnic areas, a disc golf course, an outdoor stage, and a trail system. Over half the park's acreage is devoted to public access open space and trails and trail use and nature related activities are the most common activity in the park. Despite this heavy use there is no Trail Plan to guide the work of City and County staff and the volunteer organizations that assist them. With grant funding from the Community Foundation of Mendocino County, Ukiah Valley Trail Group staff have prepared this document to provide guidance to City and County staff, work crews, and Service Organizations to ensure uniformity in the development and maintenance of a first class trail system at Low Gap Park.

Ukiah Valley Trail Group (UVTG) staff and volunteers reviewed maps and documents to develop a history of the park and to document park resources. UVTG staff and volunteers then walked the property to assess the existing trails in the Park. Trails were categorized as (a) Truck Road, (b) Design Built (official), and (c) Use or Goat Trail (unofficial). Some trails appear to be hybrid in that they likely evolved as Use (Goat) Trails and then at some point received maintenance and were tacitly accepted as "official" trails. Some of these hybrids merit adoption, while others may need to be removed.

UVTG staff used the Universal Trail Assessment Process, a widely accepted trail assessment tool, to review, categorize, and suggest improvements to the trail system. Areas where new trails or significant reroutes of old trails are recommended have been identified. Maps were created and photos have been included to assist in documenting current trails and conditions and proposed trails and realignments.



The roads, and many of the existing trails, are un-named. This plan has provided temporary names to these roads and trails to assist in communication and proposes a process for providing permanent names. The plan describes the trails, outlines the strengths and weaknesses of each trail, and provides suggestions on how problems should be addressed. Some trail problems negatively impact the user experience, while others risk environmental damage and of course, the cost of the suggested

improvements is highly variable. Decision makers will need to balance the benefits and costs as well as funding sources in setting project priorities.

The truck roads are generally in good shape while the bridges are all in poor shape. The trails run the gamut from well designed and in excellent repair to poorly aligned and maintained. Additionally, there is a need for creek access improvements and accessible (Americans with Disabilities Act {ADA} or Architectural Barriers Act compliant {ABA}) trails. The plan identifies a few areas where new sections of trail, including an ADA/ABA compliant trail, may be beneficial and a number of old routes that should be decommissioned and re-vegetated. Efforts should be made to prepare for a connecting route with the proposed Orr Creek Greenway outlined in the City of Ukiah Bike and Pedestrian Master Plan.

Project Scope

Background

Park Location: Low Gap Park is located at the base of the western hills of Ukiah, just across Low Gap Road from Ukiah High School. The park extends to the south and shares a boundary with the Ukiah Golf Course. The park is approximately 160 acres and is situated along Orr Creek, one of the three major streams in Ukiah and an important tributary of the Russian River. The City of Ukiah owns the southern half of the park and the County of Mendocino owns the northern half.

Park History: Until 1955, the City of Ukiah used a portion of the County owned land for the City dump. In 1955 the dump was closed and topsoil from what is now the archery range was pushed over the dumpsite to seal it off. Prior to its use as a City dump, there was a lumber mill and millworkers' housing on the site. Remnants of both these former uses can still be found in certain areas of the park.

In 1964, when one of the earliest State Park Bond acts was passed, a decision was made by the Mendocino County Board of Supervisors to eventually develop the Low Gap property into a regional County park. However, by 1973, when the County Parks Department was created, nothing had yet been done with the funds allocated for Low Gap, and it became the Park Director's first duty to proceed with the Low Gap project.

Development of the park continued beyond the initial construction of restrooms and a parking lot, with the help of funds acquired under the State Park Bond Act, the Roberti-Z'Berg Grant, and the Land and Water Conservation Act. (The latter two grants were competitive grants requiring County match funds.) With this financial assistance, the County was able to reconstruct and develop several recreational facilities including approximately three miles of trail that are now known as Canyon Creek and Orr Creek Trails. Over time the facilities grew to include an archery range, tennis courts, a disc golf course, a dog park, a small outdoor theater, and a PAR course.

In 2005 members of the City Of Ukiah Paths, Open Space, and Creeks Commission (POSCC) alerted the community to the existence of approximately 80 acres of City-owned, undeveloped natural habitat adjacent to Low Gap Park. The Commission brought a recommendation to the Ukiah City Council that the acreage be used for passive recreation and conservation. The initial proposal was to build a trail from Low Gap Park to Todd Grove Park with a terminus along the side of the golf course. Resistance from the golfing community led to the plan being modified so as to avoid the golf course.

In 2007 the Ukiah Valley Trail Group obtained grant funding to build a trail that would later become known as City View Trail. The trail was completed in 2010.

In 2012 the Friends of Low Gap Park was formed. The group met routinely for about two years and made a number of recommendations to the City and County. Among the recommendations was a call for a trail plan.

In early 2014 County staff arranged for work crews to come and perform what they considered to be routine maintenance on the trails at Low Gap Park. Unfortunately, the work left some members of the community upset with the quality and goals of the work. With the support of Ukiah City Manager Jane Chambers and County Supervisor John McCowen the Ukiah Valley Trail Group offered to draft a plan for the trails at Low Gap Park.

Need For the Plan

The County of Mendocino does not have a Recreation Department and parks are managed under the General Services Department. The City of Ukiah has a Community Services Department with dedicated recreation staff. However, neither the City nor the County has staff with the specific training to make recommendations regarding the building and maintenance of trails. Both the City and the County have staff members who are willing to pitch in and do what they can to manage the trail system. Additionally, the Ukiah Valley Trail Group and other service organizations are willing to assist with trail maintenance.

However, too many “cooks” with no guiding Trail Plan document, is a recipe for disaster. It is the purpose of this document to provide guidance to City and County staff, work crews, and Service Organizations to ensure uniformity in the development and maintenance of a first class trail system at Low Gap Park.

Methodology

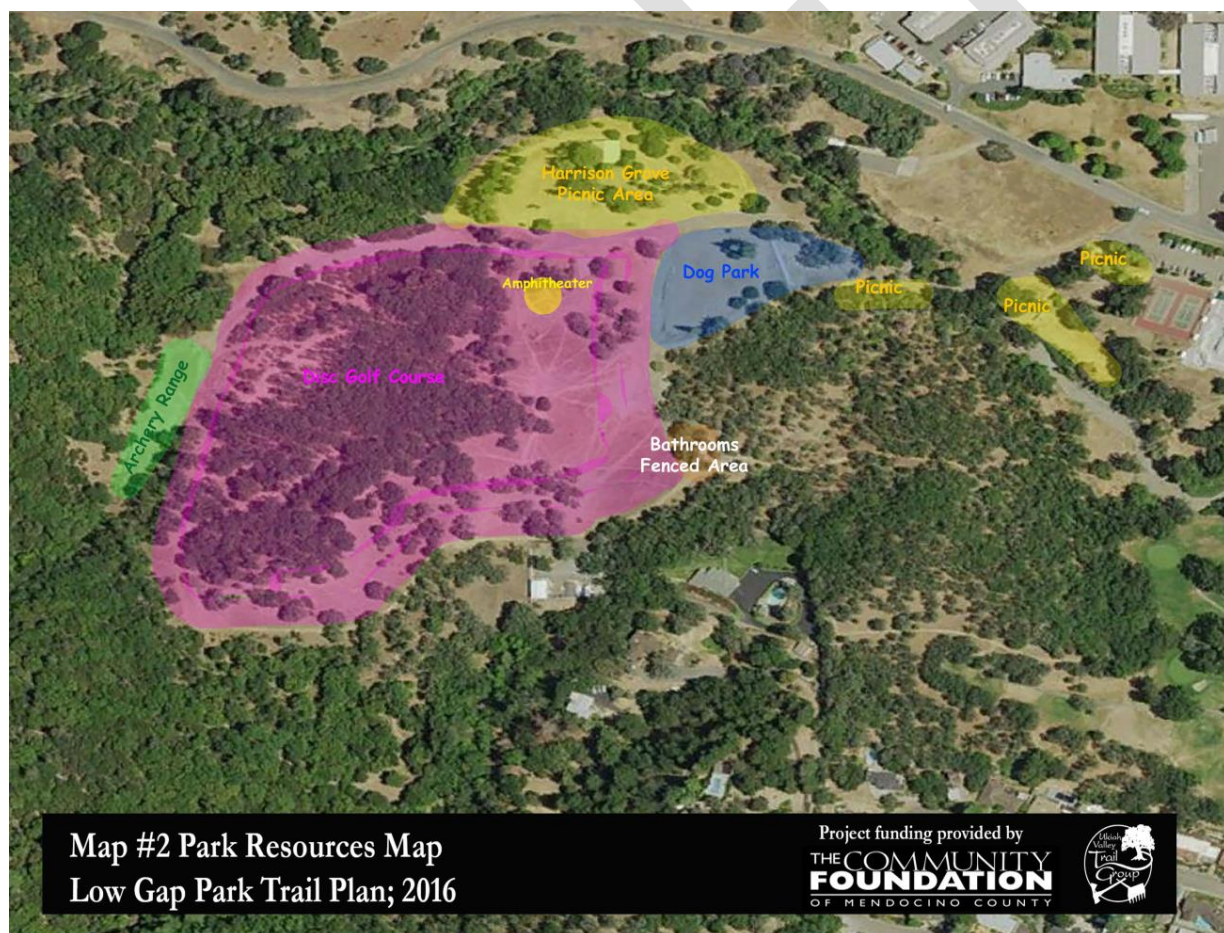
Ukiah Valley Trail Group (UVTG) staff and volunteers reviewed maps and documents to develop a history of the park and to document park resources. UVTG staff and volunteers then walked the property to assess the existing trails in the Park. Trails were categorized as (a) Truck Road, (b) Design Built (official), and (c) Use or Goat Trail (unofficial). Some trails appear to be hybrid in that they likely evolved as Use (Goat) trails and then at some point received maintenance and were accepted as “official” trails. Some of these hybrids merit adoption, while others may need to be removed.

Universal Trail Assessment Process (UTAP)

All existing trails were assessed. The Universal Trail Assessment Process (UTAP) was applied to all significant trails. Use trails and shortcuts that were deemed obviously unsuitable for continued use had their locations logged but were not assessed. The UTAP objectively documents the actual conditions in outdoor, natural environments. The UTAP is a tool that land managers, agencies, and individuals can utilize to learn about, monitor, improve, and use on any outdoor path of travel. Ukiah Valley Trail Group Executive Director Neil Davis is a Certified Trail Assessment Coordinator and supervised the data collection and prepared the UTAP reports.

Areas where new trails or significant reroutes of old trails are recommended have been identified. UTAPs for these potential projects can be created if and when the projects are approved. Maps were created and photos have been included to assist in documenting current trails and conditions and proposed trails and realignments.

Park Areas



Low Gap Park has a wide variety of facilities. This section will briefly describe the current primary uses. This document does not however seek to describe how these facilities should be managed other than to make recommendations where it is deemed potential interests may compete or conflict with the

preservation of natural habitat and the quality of trail user experience. The original recommendation from the City of Ukiah's Paths, Open Space, and Creeks Commission was the City portion of the Park should be managed for passive recreation, education, and conservation. It is the recommendation of this plan that broad swaths of the park should be protected and conserved as native habitat. The passive recreational and educational use of the park through trails should be balanced by efforts to minimize the impact on the natural habitat. For both the City and the County's properties it is imperative that the other uses of the park be limited to their current footprint and not be allowed to expand into any area that is currently being managed for conservation.

Dog Park

The Dog Park is clearly delineated by existing fencing and should not be expanded further into the park. Pets should remain on leash when outside of the dog park and educational outreach may be necessary to discourage pet owners from allowing their dogs to go off leash or into the creeks. Dogs disrupt and potentially displace native wildlife even when they do not chase. All efforts should be made to reinforce the importance of keeping dogs on leash as well as discouraging bringing them onto trails.

Picnic Areas

There are four primary picnic areas in the park. 1) Next to the Tennis Courts at the Parking lot. 2) Next to Orr Creek near the bridge that provides access to the park. 3) Next to the Dog Park. 4) Harrison Grove Picnic area. The existing picnic areas provide room for multiple groups to picnic at any given time. It is also possible for a group to reserve a site. The reserve-able picnic areas are not always reserved indicating that there are adequate picnic sites at this time. Picnic areas should not be extended beyond their current footprint.

Disc Golf



The Low Gap Disc Golf course was established in 1982 and was one of the first Disc Golf Courses in Northern California. The course gets heavy use and is heavily worn and eroded. There is no organized service organization dedicated to managing the use and maintenance of the course. As such it is in bad repair and online forums give it mixed reviews. There have been unsanctioned extensions of the course that spread the significant impact of the course and increase erosion and

danger posed by hard plastic discs being thrown from areas where other users are not expecting it. The course should be confined to its current footprint.

Archery Range

The archery range is a simple amenity with minimal impact on the natural environment. It is lightly used and maintained by the users. No extension of the archery range is necessary and safety issues render extension of the range impractical.

Tennis Courts/Skateboard Park

The Tennis Courts and Skateboard Park are on County property and managed by the City. The tennis courts are lightly used and typically available for use with no wait. There is neither room nor demand for expansion of this amenity. The Skateboard Park is popular and heavily used. The park is shared with bicyclists. There is room to the immediate south of the skate park where a bicycle skills park could be built and there is arguably enough demand to justify it. Extension into this area could however impair the ability to build an accessible (ADA/ABA compliant) trail into the park recommended later in this plan.

PAR Course

The PAR course was rehabilitated with all new stations placed in the Spring of 2015. There are approximately 20 stations on the course designed to provide users with a complete physical workout. The stations are positioned predominantly along the N Orr Creek Trail* and extend back past the Archery range and the loop is completed near the first tee on the disc golf course.

* Low Gap Park does not currently have an adequate or completely named system of trails. This plan identifies what is currently referred to as Orr Creek Trail as North Orr Creek Trail and identifies the unnamed trail on the south side of the main entrance as South Orr Creek Trail.

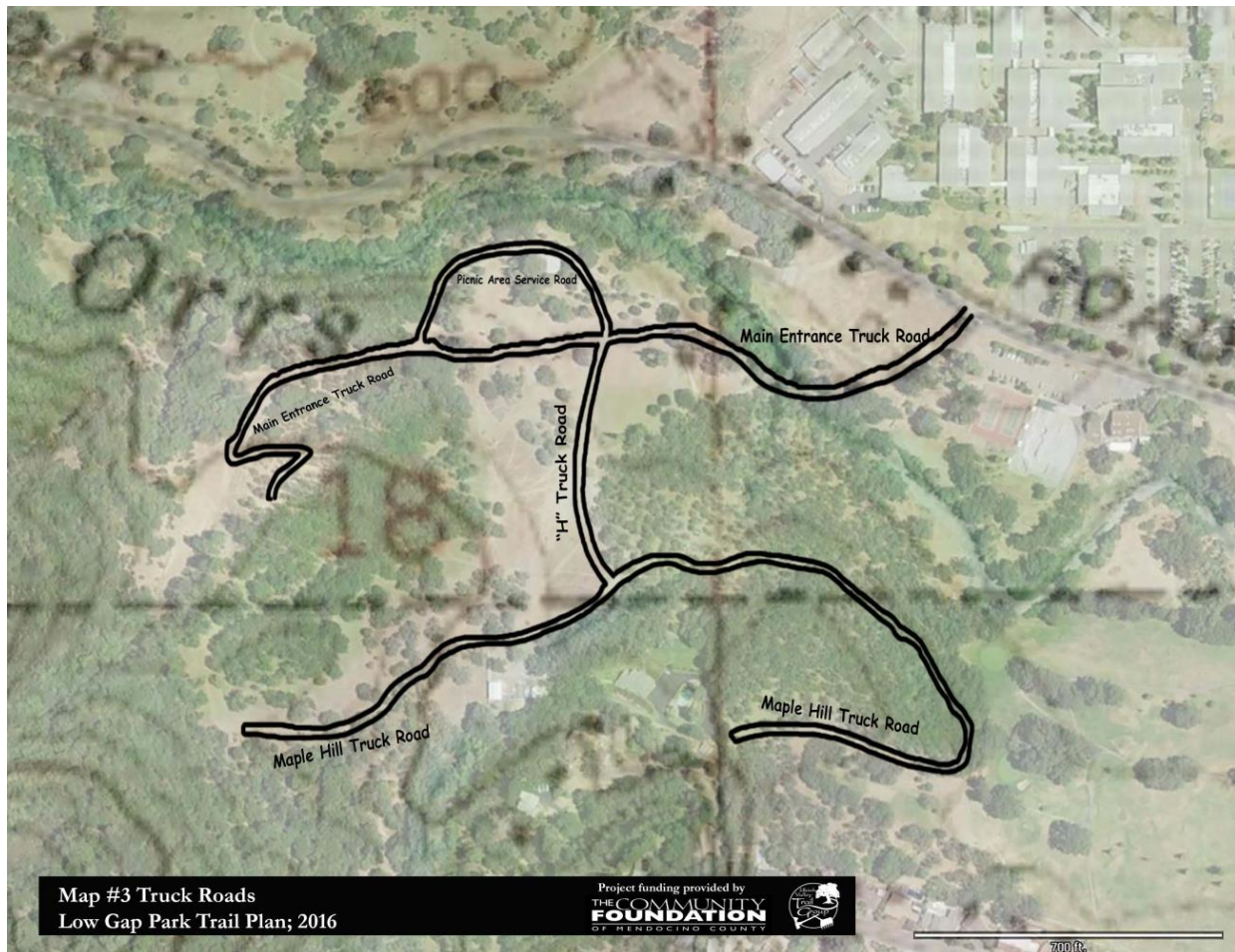
Amphitheater

The amphitheater seats approximately 150 people and is equipped with power. The theater is located near the 18th hole of the disc golf course. It is a rarely used facility.



The lightly used amphitheater

Existing Roads



This plan identifies four unique but un-named roads in Low Gap Park (Map #3). The roads are all wide enough to be used by a truck and are a combination of asphalt and compacted dirt and/or gravel. For the purpose of discussion the roads will be referred to as 1) Main Entrance Truck Rd, 2) Maple Hill Truck Rd, 3) "H" Truck Road, and 4) Picnic Area Service Rd. Maintenance staff are also in the habit of driving vehicles to the upper portions of the Disc Golf course to empty trash cans. These paths do not appear to have been part of a design or maintenance plan. County staff may want to consider addressing this use.

Existing Trail Descriptions and Recommendations

The trails of Low Gap Park run the gamut from ill-located and aligned Goat trails to excellently designed and built state of the art purpose built trails. Use patterns indicate that the N Orr Creek, Creekside and City View Trail are the most popular routes in the park. However, all trails and paths in the park have their adherents. (See Map #1 – All Trails Map)

(North) Orr Creek Trail

Quick Notes:

UTAP #1: North Orr Creek Trail Length: 2722' Avg. Grade: 6.0% Max Grade: 19% x 56'

Additional 200' section over 15% grade. Nearly one quarter of the trail is 13+% slope. This trail has a deceptively low average slope due to long flat sections followed by very steep sections. The steep sections hold up well to erosion. Although it is a relatively strenuous trail, it does not require much maintenance.

Description: (North) Orr Creek Trail, along with Canyon Creek Trail, is an older and popular trail. It is most readily accessed from Harrison Grove across from the Dog Park. It quickly descends to Orr Creek and parallels the creek for approximately a third of a mile. Glass shards and other evidence of the area's history as a dump are prominent. The trail allows access to the creek via a number of "Use Trails." It passes an old non-functioning water fountain and then provides access to the park's PAR course. At the western edge of the park's boundary the trail reverses course and climbs steeply to an old iron sundial. The trail then turns to the south and climbs steeply along an old telephone pole retaining wall. It then turns to the east, crosses a 30 foot, wooden bridge before ending at the Main Truck Road.

Problem areas: 1) creek-side erosion that threatens to erode into the trail, 2) presence of an old non-functioning water fountain 3) an erosive, fall-line use trail that connects the sundial and the old water fountain, 4) an old section of Firebreak that is used as a "Goat Trail" to climb to Canyon Creek Trail, 5) The bridge is in moderate to poor condition.

Recommendations: 1) Realign east end of trail to bring it higher on the hillside away from erosive area of creek. 2) If property boundaries allow, connect (North) Orr Creek Trail with (South) Orr Creek Trail. 3) Close and re-vegetate Use Trails. 4) Remove old drinking fountain.

(South) Orr Creek Trail

Quick Notes:

UTAP #2: (South) Orr Creek Trail Length: 856' Avg. Grade: 10.2% Max Grade: 30% x 100'

Due to its location in a flood plan, this trails should be completely realigned/relocated on to the hillside to the south of the flood plain.

Description: (South) Orr Creek Trail starts at the west end of the main truck bridge at the entrance to the park. It immediately uses an old, dilapidated wooden bridge to cross Canyon Creek. The trail immediately turns to the west paralleling Orr Creek. This initial section is narrow and rocky. The trail then descends to a flood plain where it provides a variety of access points to the creek. The area frequently floods. Following each flood, the old trail course is obliterated and users establish a new Goat "Use" trail. The trail continues to parallel the creek for a few hundred yards before climbing steeply to the Maple Hill Truck Road and an unsanctioned access point to the golf course.

Problem Areas: 1) The wooden bridge connects with a small area from which trail cannot be properly aligned without removal of large boulders. 2) The flood plain is not suitable for a trail. 3) The creek access is inadequate. 4) The bridge is in very poor condition and should be replaced.

Recommendations: 1) The existing trail alignment should be abandoned and re-vegetated. 2) A newly aligned trail can (a) provide views and access to the creek, (b) not depend on the current bridge site and (c) provide access between Maple Hill and the Park Entrance. 3) The trail should be re-aligned to start at the top of the existing stairs near the Dog Park. 4) The existing bridge should be removed. 4) An observation deck/bridge should be used at the creek crossing 5) The new trail should be aligned to stay above the flood plain with specific defined spots to take users to the creek. The new trail should climb on a contour to an observation platform midway up the creek then switchback twice to gain the summit at the bottom of Maple Hill. 6) An observation deck should be placed at the top of the creek where it crosses Maple Hill Road. 7) All platform/bridge/observation decks should have interpretive signage explaining the importance of staying on the trail and out of the creek.

Lower Canyon Creekside Trails

Quick Notes: *UTAP #3:*

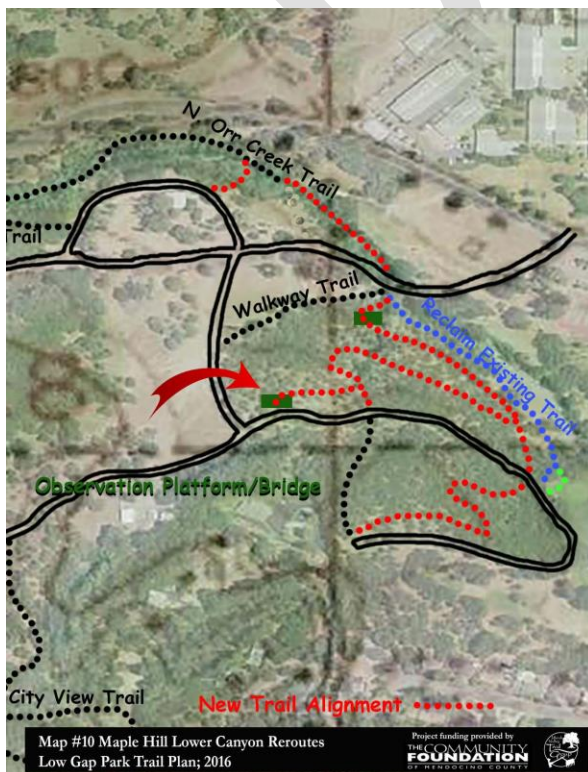
Lower Canyon Creekside Trail Length: 540' Avg. Grade: 12.% Max Grade: 38%% x 32'

Along with South Orr Creek Trail, this tangle of use/goat trails shold be completely realigned. Creek observation decks can serve as bridges to allow the public the ability to observe the creek without disturbing the habitat.

Description: A variety of poorly situated (aligned) trails criss-cross the lower Canyon Creek drainage. They appear to be Goat Trails that have been adopted with subsequent maintenance providing them with a degree of credibility. The trails are over-steep, redundant, and too close to the creek. The main trail starts at the wooden bridge that provides access to (South) Orr Creek Trail. The trail immediately bisects into multiple paths with one climbing steeply over boulders and the other skirting immediately adjacent to the creek. The main (most heavily used) trail continues to climb along a fall line to eventually connect with the Maple Hill Truck Road. The secondary branch continues up the creek-side, branches

into multiple goat trails crisscrossing the creek and eventually comes out on the Maple Hill Truck Road to the west of the main branch.

Recommendation: This solution to the problems of this area and the South Orr Creek trail are one and the same. The wooden bridge at the bottom of the trail should be removed. The trail should primarily be closed and re-vegetated with a new trail realignment to allow planned crossings with creek viewing platforms. The trail can connect with the newly re-aligned (South) Orr Creek trail and Maple Hill Truck Road. Inclusion in Trail Naming Program is recommended.



Stream crossings can be accommodated by providing “Observation Platforms” that allow the dual function of crossing the creek while allowing users to observe the creek. The observation platforms would provide a good place for interpretive signage instructing users on the importance of staying out of the environmentally sensitive creek.

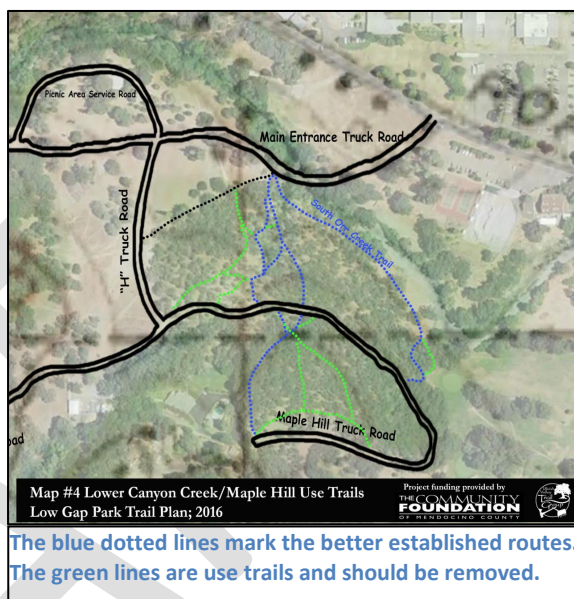
“Maple Hill Trail”

Quick Notes: *UTAP #4:*

“Maple Hill Trail” Length: 558’ Avg. Grade: 12% Max Grade: 20% x 60’

This trail only requires routine maintenance.

Description: The Maple Hill area is bordered by the Maple Hill Service Road that begins at the private property top of Maple Hill Avenue, circles a knob of land and continues to and past the beginning of Canyon Creek Trail and the Disc Golf Course. “Maple Hill Trail” is likely a use trail that has received improvement/maintenance and drops steeply along the west edge of the property until it meets the Maple Hill Service Road. The trail is over steep and appears to be used primarily by people who are accessing the park from Maple Avenue. The trail is holding up well to its current level of use



despite being overly steep. There is no evidence of this trail having been given a specific name and is referred to here as “Maple Hill Trail” for convenience. Renaming this un-named trail is a potential source of one time revenue.

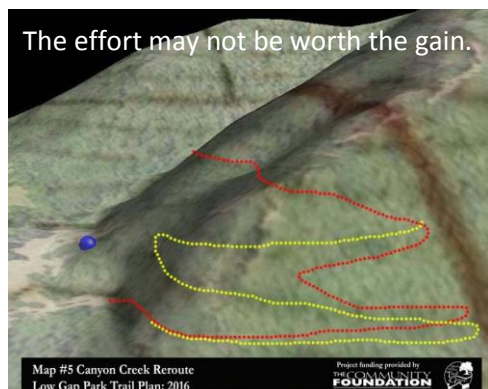
Recommendation: No Changes, routine maintenance. Include this trail in the Trail Naming Program

Canyon Creek Trail

Quick Notes: *UTAP #5:*

Canyon Creek Trail Length: 3463’ Avg. Grade: 10% Max Grade: 25% x 60’

This is one of the most popular trails in the Park. Although the narrow, tight switch backs are not ideal, they are holding up well. The trail could be realigned to improve the user experience but the effort to realign the trail may not be worth the gain.



The effort may not be worth the gain.

Description: Canyon Creek Trail starts at the Archery Range and climbs to the western boundary of the park via a number of tight and narrow switchbacks. The switchback section is too steep and is likely a reason for the trails relatively light use. Despite the poor trail layout the trail requires little maintenance. It eventually provides an excellent view spot with an existing bench. The trail then contours to the south

and crosses a poorly designed, ill-maintained bridge. It then drops at a reasonable pitch to the City View Trail and continues on to its terminus near the west end of Maple Hill Service Road.

Problem Areas: 1) As the trail initially climbs away from the archery range, it intersects with the “Canyon Creek Cutoff Trail.” A 16-24 foot section of split rail should be placed here when the trail is decommissioned as recommended later in the plan. 2) The switchbacks are too narrow and spaced too close together leading to cutting of switchbacks and a less than optimal hiking experience. Significant trail realignment should be considered but would require a major effort.

Orr/Canyon Creek Connector Road

This 120 foot section of old Truck Road connects N Orr Creek Trail and Canyon Creek trail. The section is preferentially used by hikers who are hiking both trails as a loop (as opposed to hiking to and past the Archery Range).

Problem Area: The trail is excessively steep.

Canyon Creek Cutoff Trail

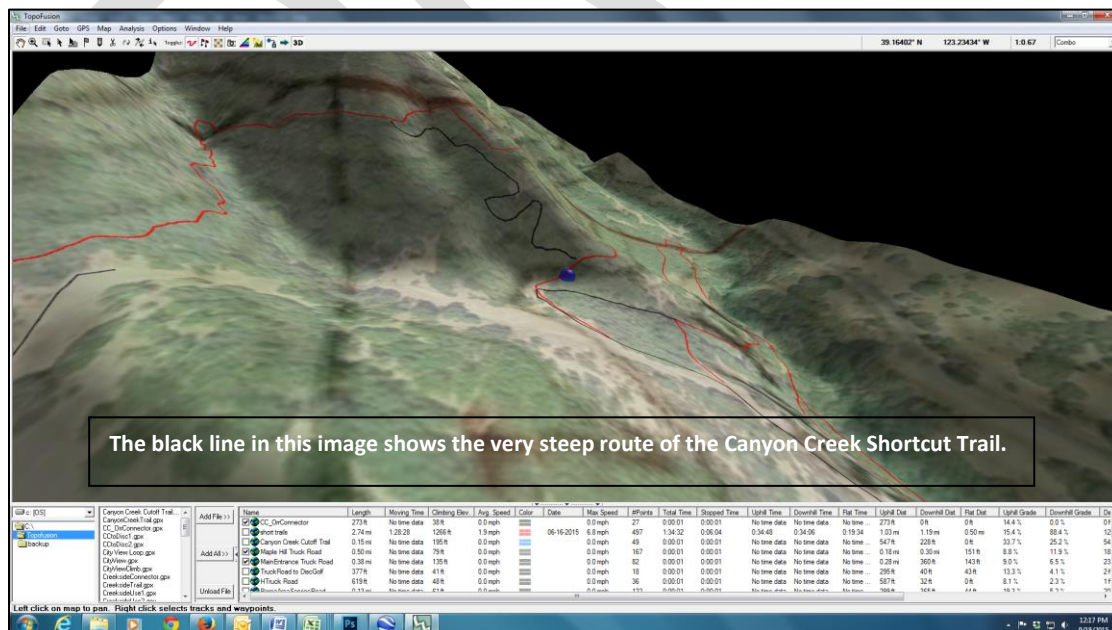
Quick Notes: *UTAP #7:*

Canyon Creek Cutoff Trail *Length: 776'* *Avg. Grade: 19.4%* *Max Grade: 28% x 109'*

This is a redundant, un-necessary, and overly steep trail that should be decommissioned.

The history of this trail is unclear. It may be a use trail that received maintenance or it may have been purpose built. It is over-steep and redundant. It does not provide a unique trail experience or destination. It is simply a shortcut that increases long term maintenance requirements and increases human impact on the natural environment and wildlife. Appendix

Recommendation: Decommission and restore the area.



City View Trail

Quick Notes: *UTAP #8:*

City View Trail Length: 8358' Avg. Grade: 6.3% Max Grade: 30% x 22'

The most popular trail in the park. Routine maintenance.

City View trail was purpose designed and built to a high standard in 2010. It is the most heavily travelled and popular trail in the park. The trail is 8358 feet long (1.6 miles) and has sustainable grades. Despite heavy use, the trail is holding up well and requires minimal maintenance.

The trail has become the preferred jump off point for illegal off trail access to the “U” on the property above Low Gap Park. Efforts to stop this trespass (signage and split rail fence) have proven futile. Further discussion of this can be found in the “Trespass to the U” section of this plan.

Recommendation: Routine maintenance.

“Picnic” Trail

Quick Notes: *UTAP #9:*

“Picnic Trail” Length: 526' Avg. Grade: 3.1% Max Grade: 9% x 75'

A well designed, pleasant but short section of trail. Routine maintenance.

This un-named trail - here referred to as “Picnic trail - is a well laid out and sustainable trail that provides access from the main picnic area to Orr Creek. The Picnic Area is directly uphill from Orr Creek and there are multiple use trails from the area to the Creek. North Orr Creek Trail and “Picnic” Trail should be the two routes between the Picnic area and the Creek. Currently there is no signage to inform users how to get to the creek.

Recommendation: 1) Add signage so users can find the trails to the creek and interpretative signage to educate users as to the problems created by shortcutting. 2) Build fence along the creek side of the picnic area. 3) Add interpretative and directional signs. Off trail shortcutting should be able to be minimized by building a fence along the creek side edge of the area and creating a new route from the east side of the picnic area to N Orr Creek Trail. Routine maintenance of the trail. Inclusion in trail naming program.

Red Arrow Trail

“Red Arrow” trail is signed as starting next to the 4th tee of the disc golf course and continues onto the disc golf course. Leading hikers onto the disc golf course is undesirable to both disc golfers and hikers. The trail route is unclear (once a user is on the disc golf course there is no single clear path) and its signage is inappropriate and misleading.

Recommendation: Decommission trail and remove signs.

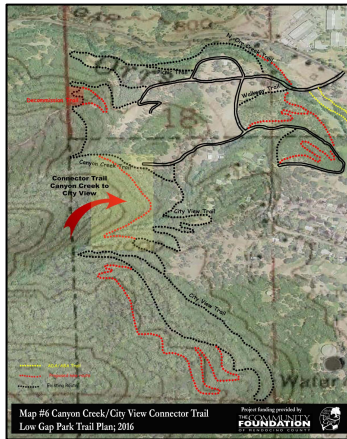
“Walkway” Trail

This is not a true trail but a common short cut route across a picnic area and playground. It is frequently used by hikers who are on their way to City View Trail. There is no downside to people walking this way and no significant benefit to improving it as a route.

DRAFT

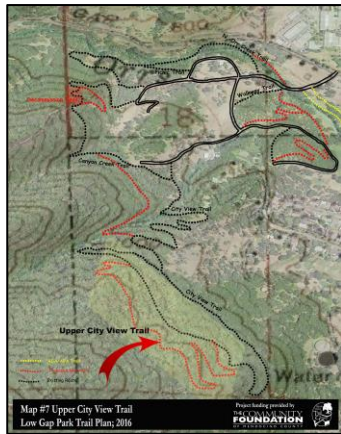
Proposed Trails

Canyon/City View Connector Trail



This proposed trail would be approximately one half mile and would contour at approximately the 1100 foot elevation level from Canyon Creek trail to City View trail. This trail would provide an additional loop option and allow frequent users of the area a different option thereby encouraging more frequent use (a public health benefit). The trail route crosses areas of mixed hardwood before contouring through redwood trees to a seasonal stream crossing. The majority of side slopes are moderate and the alignment would be suitable to hand-built trail techniques.

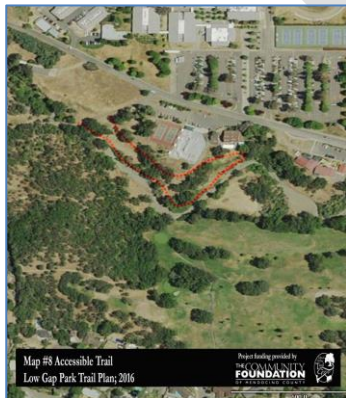
Upper City View Trail



The area uphill from City View Trail is large enough to allow a new loop trail to be built. There is room for up to an additional mile of trail. Anecdotal reports of people doing multiple loops of City View Trail and the high use of City View Trail suggest there is a desire for increased trail mileage in the park. The side slopes are not as great as on City View Trail and the area is suitable for hand built trail. The habitat and soil is similar to City View Trail.

ADA/ABA Access Trail

The existing trail system at Low Gap Park does not include any trails that meet Americans with Disabilities Act (ADA) or Architectural Barriers Act (ABA) standards. Existing trails are not suitable for being improved to meet these standards. The existing access road that starts at the parking lot descends to the bridge at greater than the 5% maximum allowed by the ADA and ascends from the bridge at a greater slope as well. The ABA allows for steeper slopes on recreational trails, however the ADA standard could be interpreted to apply to the primary access road.

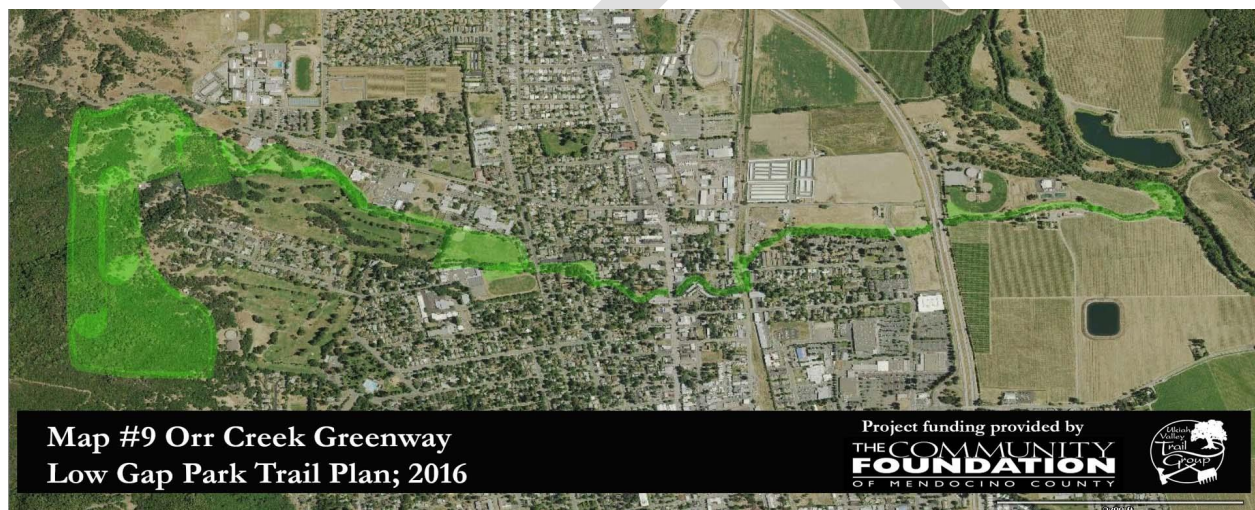


An ADA trail (paved or unpaved) can and should be built from the parking lot to the picnic area below the Tennis courts. The trail can be aligned to travel between the playground and the upper picnic area near the tennis courts. From there it can traverse to the west and descend to the lower picnic area. This can provide for a one quarter to a half mile of ADA

compliant trail. The trail would provide access to a picnic area, provide creek access, and provide for a nature trail experience. “Creek access” and “nature trail experience” constitute the primary trail experiences one can have at Low Gap Park. As such, this trail would provide a disabled person with the same experience as any able bodied user and satisfy ADA/ABA guidelines.

Orr Creek Greenway Connection

The Ukiah Bike and Pedestrian Master Plan calls for the development of a “greenway” along Orr Creek from Low Gap Park to downtown Ukiah and beyond. The Orr Creek Greenway will provide a pedestrian and bicycle trail, creek restoration, riparian restoration, and pocket parks. The best option would be for the Orr Creek Greenway to be an extension of the above outlined ADA/ABA Access trail. This alignment would take the trail along the north side of the creek behind the jail. A second alternative would be for it to connect with the Maple Hill Truck Road after crossing along the Northern boundary of the Golf Course. Both options are feasible from Low Gap Park.



Maple Hill View Spot Trail

The Maple Hill area of the park is criss-crossed with use trails. The use trails take users to 1) a view spot on the top of the hill, 2) a beautiful, large “old growth” Manzanita, 3) a short-cut route to the top of the hill, 4) and a couple of children’s or homeless user redoubts. This concentration of use trails is probably due to a combination of the area having light use (allowing for unobserved use) and a couple of desirable destinations (the beautiful tree and the view spot). A new 700-1000 foot section of trail that connects South Orr Creek trail to the top of “Maple Hill Trail” would allow users access to the view spot and the manzanita tree while allowing an additional loop of high quality narrow tread trail. Bringing additional users to this area would discourage the current inappropriate off trail recreation.

Harrison Grove Picnic area to Orr Creek

People using the Harrison Grove Picnic area can hear the creek below them and will be irresistibly drawn to it. The “Picnic” trail described earlier provides one access route. A second well signed route is

required to allow users to reach the creek without creating multiple use trails down the hillside. A short section of trail can be built from the east end of the picnic area connecting with N Orr Creek Trail.

Undesirable Goat (Use) trails

“Trail” to the U

The western hills of Ukiah are home to the 40 foot tall “U.” The “U” is on private property uphill and to the west of Low Gap Park and has been in its current location since at least the 1930’s. Hiking to this icon of school and City spirit has provided something of a rite of passage as well as an excuse to get exercise for decades. Many long time Ukiah residents relate stories of hiking to the “U” with school classes and new residents are drawn to hike to the U” as part of an unofficial initiation as a “local.” Most Ukiah residents have hiked to the “U” at least once and many have made the trek multiple times.

Although the current property owner is not overly concerned with the trespass, she has not given permission for public access. Once at the “U” some users decide to descend along a truck road that takes them across private property and outlets at the top of Standley Street. These property owners have been outspoken in their displeasure with trespassing. Efforts to stop or discourage users from leaving City View Trail to hike to the “U” have been ineffectual. The heavy use has led to the creation of a well established use trail that leaves from the top of City View Trail and takes the trespasser directly uphill to a location on the firebreak below the “U.”

The Upper City View Trail discussed above would take users closer to the “U.” If an easement to the “U” were granted, property boundary limitations would still make it unlikely that a sustainable–grade trail could be built to the same location on the firebreak. Additionally, many trespassing hikers are seeking an arduous hike, or are goal/destination driven, and therefore would likely continue to take the steepest, shortest route to the “U.” Although an Upper City View Trail may be desirable, it is not likely to decrease the short-cutting or trespass to the “U.” Neither is there any reason to believe it will increase trespass to the “U.” The use trail is in relatively good shape despite heavy use and poor design. Should the land owner at some future date allow a public easement to the “U,” a re-evaluation would be necessary to determine the best trail design and maintenance strategies.

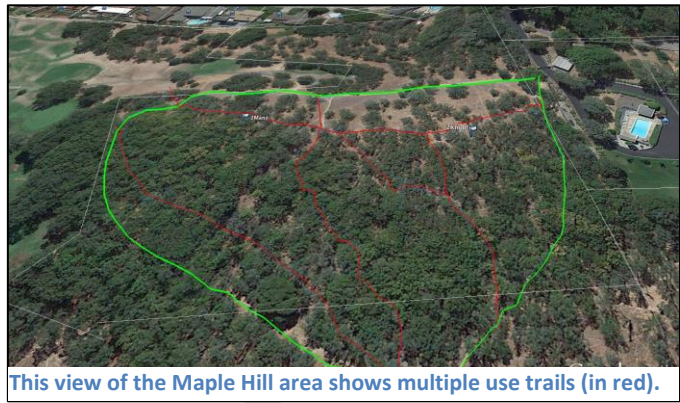
Recommendations: Efforts to discourage trespass should be continued. Innovative ideas to stop or discourage trespass should be sought. Foster good relations with land owning neighbors. Consider working with local Land Trusts to obtain property rights or easements.

Short cuts

Short cutting is a significant problem at Low Gap Park. Many short cuts have received enough use to appear to uninformed hikers to be legitimate trails and some “trails” that have received maintenance likely began as short cuts. Short cuts are typically over-steep, but can be desirable to users who wish to quickly get to a desired destination or desire an arduous workout. Significant short cuts are found, 1) between the Harrison Grove picnic area and Orr Creek (4-5 short cuts) , 2) in the Maple Hill area, (Maple

Hill Use Tangle.jpg) 3) along both sides of Canyon Creek between the main access bridge and Maple Hill Truck Road, 4) on the old firebreak on the North West corner of the park, 5) from the bottom of City View Trail to the “U.”

Recommendations: 1) Split rail fence around the Harrison Grove picnic area to physically block short cuts with directional signs to inform users the way to the trail and the creek and interpretive signage to discourage off trail scrambles. 2) Improving existing trails to allow sanctioned access to desirable areas, split rail fence along critical areas of Maple Hill Truck Road, and interpretative signage to educate users regarding the reasons not to take short cuts. 3) Realignment of trails on lower Canyon Creek with the addition of observation platforms and interpretive signage. 4) Split rail fence and re-vegetation on the old firebreak. 5) Continue efforts as discussed above to discourage short cutting and trespass from City View Trail.



This view of the Maple Hill area shows multiple use trails (in red).

Trail Removal and Restoration Practices

Trails that are over-steep, impinge on sensitive habitat, are redundant or are otherwise poorly aligned may need to be removed. Removing or “decommissioning” of trails requires a concerted effort as users are typically tenacious in their efforts to continue to use established and familiar routes. When a trail is removed, all practical efforts should be made to restore the area to its natural condition. The hardened trail course should be scarified to loosen the impacted dirt. Downhill ledges should be removed, and to the extent possible, the natural side slope should be restored. Natural duff materials should be used to cover the old trail. Planting in the old trail-bed, particularly upright tall plants can obscure the trail “doorway” and render the path less apparent and less likely to be accessed.

Recommended Signage

Trail signs help the user with way finding, inform users of allowed behaviors, and interpretive signage can improve user experience. All trails should have way finding signs at intersections. Park and trail rules should be placed at the main trailhead and minimized through the rest of the park. Interpretive signage tends to do a better job of guiding behavior than does prohibitive signage because it tells users *why not* to do things rather than simply stating to not do it. The vast majority of users will visit the park many times and will only read the interpretive signs the first time they see them. However, interpretive signs remain a magnet for vandalism through their life.

Benches and Picnic Tables on Trails

Benches are appreciated by many users and may allow some users to extend the length of their outing by facilitating rest. Additionally, memorial plaques on benches can provide an additional source of revenue. However, they are not essential and can be a target for vandalism and increase the need for

maintenance. Benches should not be placed more than once per mile or once per trail if the trail is shorter than a mile.

Picnic tables are also appreciated by some users. The above pros and cons for benches apply to picnic tables as well. However, there is an increased incidence of garbage and fire risk associated with picnicking. This plan advises against picnic tables.

Creek Access Facilities

Creek access is one of the two primary user experiences provided by the Low Gap Trail System. Orr Creek and Canyon Creek are potentially accessible. Both creeks are seasonally dry. Orr Creek historically was a steelhead fishery and steelhead can still occasionally be seen in the creek. Historically people and their pets have accessed Orr Creek from the picnic area below the tennis courts, the South Orr Creek trail, and the North Orr Creek Trail. There is significant erosion along the edge of the picnic area on Orr Creek, largely but not exclusively, from recreational access at this spot. Canyon Creek between the main access bridge and Maple Hill Truck Road has been significantly impacted with multiple use trails and multiple inappropriate and environmentally unsound access points along both sides of the creek.



Ecologically it would be best if people and their pets did not go in either of the creeks. This however is unlikely an achievable goal. Setting a goal of limiting and controlling access points, while minimizing impact, is a realistic goal.



Recommendation: 1) The primary creek access point should be at the Picnic area below the tennis courts. Hardening of the stream bank with some type of rock or cement stairs/benches and an ADA accessible ramp to the water will provide access and sediment/erosion control (see Photo XX). ADA or ABA trail should and can be built from the parking lot to this location.

2) Additional access points along the other side (southern side) of the river from South Orr Creek Trail can be provided using natural surfaces. Re-aligning the Canyon Creek Trail and removing the current wooden bridge as discussed earlier in this plan will render this location more remote and should act to decrease the amount of access from this location. Extensive seasonal flooding of this area render it impracticable to harden access areas.

3) Access points to Orr Creek from North Orr Creek trail should be at the two sites. These could be rock or stair/benches but would not require a ramp as the trail to this location is not ADA compatible. A wooden viewing deck with or without a rock stairway to the creek would concentrate user impact to the area at location x and could be employed as a way to decrease creek access.

4) Access to lower Canyon Creek should be limited to the viewing platforms as described in the Lower Canyon Creek trail portion of the plan above. The goal for Canyon Creek would be to provide viewing access of the creek while keeping people and their pets out of the creek.

Caretaker Area

The Caretaker area as described here includes the bathrooms and the fenced area immediately adjacent to them. Historically a caretaker lived in a trailer in the fenced area with reduced rent in return for providing a “neighborhood watch” to the park. The County administered the caretaker program and at some point in the not distant past the program was discontinued and the trailer was removed. The area still has power and plumbing. There are a few storage sheds inside the fence that county staff use for Park Maintenance supplies.

Recommendation: The Bathrooms at this location should be kept and maintained. Options for this area should be explored as the site is becoming a nuisance and eye-sore. The review process of this draft should be used to identify a best option for the Caretaker area.

Trail Naming Plan

The truck roads and many of the trails at Low Gap Park do not have names. All roads and approved trails should have names to assist users with way finding and planners and staff with communication. The need for trail and road names with the concomitant need for project funding presents the possibility of meeting both ends with a process of auctioning naming rights with proceeds to benefit trail projects at Low Gap Park. Auctioning of naming rights could happen at a charity event or it could be done in an online format. Although all trails and road naming rights could be done at once, it is likely a greater total return would be obtained by auctioning one or two trails or roads at a time over the course of years.

There are three roads and between three and eight trails that could be auctioned (ADA/ABA trail, S Orr Creek Trail, City View/Canyon Creek Connector, Upper City View, Lower Creekside, Maple Hill, Maple Hill View).

Simple guidelines could be outlined in advance to ensure trail names are appropriate and inoffensive. The Ukiah Valley Trail Group or similar non-profit organization could be enlisted to organize and manage the process as well as to hold the funds until a Low Gap Park trail project is identified that is suitable

Bridges



There are four bridges plus a number of puncheons in Low Gap Park. All four of the bridges are in moderate to poor shape and planning for their replacement should be a priority. Puncheons can be maintained or replaced with minimal effort during the course of routine maintenance. Existing puncheons are in moderate to excellent shape.

Appendix

The Universal Trail Assessment Process (UTAP)

By Kathy Newman, Beneficial Designs

American Trails is helping promote and further the Universal Trail Assessment Process (UTAP). The UTAP is a tool that land managers, agencies and individuals use to monitor, improve, and document any outdoor path of travel. Data collected during the assessment can also be provided to trail users for specific conditions, such as grade, tread width, features, obstacles, and trail surface. An updated discussion on UTAP and its goals with regard to the diversity of trail activity types was made available May 14, 2003.

Beneficial Designs developed UTAP with land management agencies and organizations focused on accessibility; several are now using it to assess trails. As UTAP has evolved over the last eight years, the need to expand how the process is taught and used has become evident. Funding has been received to create software for managing UTAP data and also to develop an educational program to increase the number of UTAP Trainers in partnership with American Trails. Workshops on UTAP training are posted on the Calendar. The UTAP sponsors are also members of the National Trails Training Partnership.

Background

Beneficial Designs received funding in June of 1993 to create a universal mapping system to communicate detailed and pertinent information about individual trails. The information was designed to be useful to anyone who might want to hike a trail, regardless of their hiking ability. Existing trail rating systems using subjective descriptions such as "difficult" do not give users the information they may need to safely attempt a hike.

Summary of the UTAP Process

The Five Access Characteristics-- During a 1991 pilot study conducted in Yellowstone National Park and the Gallatin National Forest, Beneficial Designs identified five characteristics of a trail that greatly affect access. A system to collect and provide to the public information about grade, cross slope, surface type, obstacles, and trail width was developed into the Universal Assessment Process to help make trail systems more accessible to users.

Grade -- The average grade between two designated stations along the trail is measured with a clinometer. These measurements are then used to compute the average grade for the entire trail. Short, steep sections are measured with an inclinometer and recorded as maximum grade sections. The inclinometer is 24 inches in length and thus measures the grade as it would be experienced over the course of a single stride, or by a stroller or wheelchair.

Information about the maximum grade sections found on a trail is used to add detailed information to maps. The average and maximum grades are displayed with the grade symbol to convey this pertinent information on TAI Strips and trailhead signage.

Objective information about the average and maximum grade is very useful to all user groups, especially mountain bike riders and persons with mobility limitations, including older persons and those that use canes, crutches, walkers or wheelchairs.

Cross Slope Cross -- slope is measured at designated stations along the trail with a 24-inch inclinometer. These measurements are then used to compute the average cross slope for the entire trail. Similar to

maximum grade, steep cross slope sections are measured with an inclinometer and recorded as maximum cross slope sections.

This information is used to add detailed information to maps. The average and maximum cross slopes are displayed with the cross slope symbol to convey this pertinent information on TAI Strips and trailhead signage.

Cross slope information is most useful to wheelchair users. Wheelchairs are very difficult to drive or maneuver on steep cross slopes.

Width -- A tape measure is used to measure the width of the trail. The minimum tread width, or "beaten path," is measured at each station and is used to calculate the average tread width. The minimum amount of usable passage space between stations, or minimum clearance width, is also measured. Objective information about the width of the trail and the locations of the narrowest sections is critical for people who use mobility devices such as strollers, walkers, and wheelchairs. The average manual wheelchair has a wheelbase width of less than 28 inches. If a trail narrows to 26 inches, persons in a 28-inch wheelchair will know that they will not be able to venture past this point unless they are capable of transferring out of their chair and maneuvering their chair through this narrow location. If the width of the trail is disclosed, mobility device users will be able to determine before embarking on a trail exactly how far they will be able to hike and whether they will be able to reach their destination.

Surface -- The type of surface found in between stations is recorded, as well as a description of its characteristics. Trail surface type is a major influence on the degree of access for all user groups.

Trail Length -- The distance from the trailhead is continuously recorded to indicate the total length as well as the position of each measurement site relative to the start of the trail.

UTAP Tools and Materials

Our Universal Trail Assessment Tool Kit includes a complete array of inexpensive and easy-to-use devices that will enable you to assess your trail accurately while keeping your costs down.

Each kit includes a Suunto compass to determine the trail bearing; a Suunto clinometer to measure the average grade between two points of the trail; a digital SmartTool inclinometer to measure trail sections for maximum grade and maximum and average cross slope in percent, degrees, or rise:run a Rolatape to measure the trail length and the positions of trail features and points of interest.

Also included in the tool kit is a good old-fashioned tape measure to measure tread and clearance widths and the magnitude of obstacles, two clipboards to hold data sheets, pre-printed marking flags, a roll of marking tape, a dictaphone and cassettes, a 2-3 person First-aid Kit, master copies of the Trail Data Forms, a permanent marker for writing on flags, and a backpack for carrying essentials. All items fit into a sturdy carrying bag, with plenty of room left for granola bars and rain gear.

The above items can be purchased separately or as a kit. The Minimum Kit includes all of the above items for one low price, and the Preferred Kit includes a second compass and inclinometer.

For purchasing information, contact kathy@beneficialdesigns.com

Trail Assessment Training Manual

The Universal Trail Assessment Coordinator Training Manual teaches you how to assess a trail for access, mapping, and maintenance information. Illustrated step-by-step instructions show how to use each assessment tool, how to accurately measure grade, cross slope, width, and obstacles and how to describe surface type.

The manual includes tips for putting together an effective trail assessment team, checklists for organizing a trail assessment, slope conversion tables (percent:degrees:run/rise), and both the Access Board's and Beneficial Designs' proposed design standards for outdoor recreation access routes and trails.

The Training Manual also teaches you how to correctly complete each line on the Trail Data Form and record trail descriptions. The Training Manual includes examples of obstacles, trail features, points of interest, maintenance issues, and other descriptive information.

Although the Training Manual offers detailed instruction for conducting a Universal Trail Assessment, there's no substitute for hands-on training. We strongly recommend that before you conduct a Universal Trail Assessment, you participate in a Universal Trail Assessment Coordinator Training Workshop. *The complete list of UTAP training opportunities by date are posted on the National Trails Training Partnership Calendar.*

Benefits of UTAP

The UTAP can be used to:

- provide Trail Access Information to users document and monitor trail conditions and the environmental impact of the trail
- identify and prioritize maintenance, access and construction needs create detailed logs of signs, bridges and other facilities
- increase user safety and enjoyment by enabling informed trail choices
- gather interpretive information about the trail environment
- enhance trail access and use for a wide variety of users, including older adults, inexperienced users, families and people with disabilities
- track changes in trail conditions over time
- determine trail compliance with design standards
- create trail maps, signs and other information products accurately
- budget for trail maintenance activities
- provide detailed reference information for search-and-rescue plans and activities
- UTAP Train-the-Trainer Program

Universal Trail Assessment Plan Example

All UTAPs created for this plan are available in excel format upon request.

Segment Data Worksheet

Trail Name: Canyon Creek Trail 4 1/4

Date: _____ Page: 4 of 10

Legend: P = Paved, H = Hard, F = Firm, S = Soft, VS = Very Soft

| Segment | Distance | Surface | Width | Grade | Notes | Trail ID | Segment ID | Comments |
|---------|----------|---------|-------|-------|-------|----------|------------|----------------------------------|
| 2159 | 1.15 | 3 | 5.0 | 4.5 | | | | |
| 3214 | 66 | 3 | 6.3 | 12.5 | | 10/36/9 | | Intersection to Shalecut trail |
| 3340 | 61 | 3 | 5.8 | 0.1 | | | | Intersection to Firebrook |
| 3401 | 50 | 2 | 5.1 | -1.1 | | | | Pincheon |
| 3451 | 40 | 2 | 12.2 | -5.1 | | | | |
| 3491 | 114 | 2 | 8.3 | 11.1 | | | | |
| 3605 | 67 | 2 | 3.0 | 12.5 | | | | |
| 3672 | 64 | 3 | 10.0 | 12.0 | | 10 | | 18" wide @ 1 point Switchback #1 |
| 3736 | 54 | 3 | 12.9 | 10.2 | | 10/31/11 | | Switch back #12 |
| 3740 | 118 | 3 | 3.9 | 14.5 | | | | Switch back #13 |
| 3900 | 36 | 3 | 8.1 | 10.0 | | 12 | | Switch back #15 |
| 3936 | 63 | 3 | 10.1 | 15.1 | | | | 12" wide section |
| 3993 | | | | | | | | |

Ukiah Valley Trail Group

Philosophy and Design and Maintenance Standards

Trail Philosophy: Central to the Ukiah Valley Trail Group's approach to trails is the recognition that our world is one of finite resources and, since demand for these resources is increasing steadily; insightful management is of utmost concern. The Inland Mendocino County Trail system must be designed to utilize resources in ways that benefit all non-motorized users. This entails providing adequate accommodation and accessibility, rather than focusing on individual user groups. The increased sharing of resources sometimes creates friction between the diverse user groups vying for more trail space. This Trail Plan acknowledges that a certain amount of friction is inevitable and therefore focuses on planned communication to minimize the differences and optimize the benefits derived from these precious resources.

Plans for optimal use of trail resources must be in concert with the objective of natural and cultural resource protection. Any decisions on resource use affect not only local residents and visitors, but our natural and cultural habitat as well. If we make responsible decisions concerning preservation of our resources, we will succeed in our custodial duties to the environment while at the same time providing enjoyment for current and future generations. Through well designed, constructed and maintained trails we will accomplish optimal public access while accommodating resource conservation.

Providing the public with increased access to trail and greenways is not enough; we must also strive to promote the abundant benefits that derive from them. Trail benefits include recreation, transportation, energy conservation, environment and habitat protection, fire suppression, improved physical and mental health, and local economic benefits. Informing the public of the significant benefits expands public awareness of the advantages that trails and greenways offer to the individual and the community. Gaining public support thereby encourages policy makers to support trails and greenways and to increase funding to better manage the trail system.

Improving relationships and interaction between government entities and the private sector will be necessary for the effective development of a well planned and managed trail and green-way system. Open communication between all levels of government and interested parties enhances the finding of common objectives by making individuals and groups part of the solution. Linking communities and trail advocates in trail planning minimizes land use conflicts and allows for optimal resource use. Joint planning emphasizes the development of interconnected trails in natural settings and a united effort creates a stronger voice for advancing trail proposals.

The general goals that define a quality trail system include:

1-Adequate mileage

- Moderate strong bike or horse riders ride 15-20 miles in a day
- Endurance riders will ride 100 miles in a day
- There are approximately 30 miles of trail in the Ukiah Valley

Lake Mendocino currently has approximately 16 miles of trail and is near to maximum capacity. Small increases are necessary but can be mitigated with road closures and road to trail conversions. Employing a “stacked loop” design can maximize the trail experience within the capacity.

2- Connectivity

- A single recreation area is unlikely to meet all the community’s needs.
- Trails that connect the various areas are therefore necessary.
- Connectivity allows trails to fulfill a transportation role.
- Lake Mendocino Trails do not currently connect with any other trail systems.
- Priority should be given to approving trails that link Lake Mendocino to outlying areas.

3- Variety of environments

- An example of each of the area's micro-ecosystems should be included, such as Riparian, oak woodland, mixed hardwoods etc.
- Trails should include sunny areas, which will be more desirable in the winter, and shady areas for summer use.

4- Variety of trail experiences

- Different trail users appreciate different trail characteristics.
- Equestrians generally prefer wider trails.
- Mountain bikers generally prefer lots of rolling ups and downs with lots of turns.
- Runners tend to prefer gentle grades.
- Advanced users desire more “technical” or challenging trail - narrower with a rougher, more uneven tread.

A quality trail system will provide a variety of trail experiences. A small trail system should focus first on trails that meet the needs of the majority of users.

5- Easy Access/Options

- Users need to be able to get from home to trail quickly and start their experience.

- The first trail from the trailhead should be an easy trail, wide and smooth - suitable for all users.
- As users delve further into the system, the trails should increase in difficulty.
- “Stacked loops” of trails allow users to return by a different route while providing a variety of options.

6- Signage / Mapping

- All trails should be named and signed.
- All trailheads should have an information kiosk.
- Maps should be readily available for all trails.

7- Sustainability & Maintenance

- Trails need to be well maintained.
- Trails designed to sustainable standards require much less maintenance.

Trail tread and slope characteristics

1. Trail Width:

Trail beds shall be built and maintained with a goal of being three feet wide. Topographical, vegetation, or resource constraints may require sections that are less than three feet.

Rationale: Allows users to pass by each other safely.

2. Rolling “Contour” Trails:

Trails shall be built with the contour of the topography (plus or minus 10%) utilizing side-slopes and avoiding flat areas as much as feasible.

Rationale: Building trail along fall lines or in flat areas creates erosion. “Contour” trails allow water to sheet off the trail and flow downhill.

Keeping trails on hillsides keeps them out of flatter, wetter areas. Trails built in wet areas are not sustainable. Users tend to walk along edge of trails, creating trail widening. Wet areas are more prone to soil compaction and displacement.

“Contour trails create changing view sheds that add to the enjoyment of the trail.

3. Average trail grade less than or equal to 10%:

The average slope of the trail will be less than or equal to 10%, some slopes will be greater and some less. Side slope, soil type and natural obstacles will determine the grades for each individual section of

trail. Sections that are over 10% should be short and followed by a relatively flat section or grade reversal.

Rationale: Most soil types can withstand up to 10% grades.
Minimizes user-caused erosion.
Allows for possible reroutes at a steeper grade if there is a future problem such as a slide.
Accommodates undulations/grade reversals.
Feels comfortable to most trail users.
Grade reversals after steep sections allow the user to recover from the increased effort.

4. Sustainable trail alignment - Trail grade does not exceed “half-rule”:

The grade of the trail should not be greater than half the grade of the sideslope that the trail traverses.

Rationale: Prevents erosion caused by water flowing down the trail rather than flowing down the hillside.

Guides individual trail planning segments to fit the topography.

5. Maximum trail grades should be less than 15%:

Rationale: Although this rule might occasionally need to be broken, at least for short segments of trail, our observation is that most of the existing trails in the Ukiah Valley are sustainable up to a grade of 15%. Higher grades, especially in areas exposed to weather, have suffered more erosion and damage from users.

6. Incorporation of grade reversals: Trails should incorporate frequent grade reversals every 10 to 50 feet, depending on soil type and topography.

Rationale: Grade reversals provide areas for water to drain off of trails. As trails age, the shape of the trail bed tends to become concave, leading to the trapping of water. Grade reversals divide the trail into short, individual watersheds.

7. Build in outslope:

Outer edges of trails shall be built and maintained so that they create an approximate 3-5% slope from the inner edge of the trail.

Rationale: Allows water to sheet off of trail, decreasing erosion.

8. Build in backslope:

Depending on soil stability and composition, the area uphill of the trail shall be sloped extending upward from the trail.

Rationale: Prevents a waterfall effect from water coming down the hill and dropping onto the trail tread.

9. Water Crossings:

Water crossings should be avoided when possible. Trails shall be designed, built, and maintained to minimize sedimentation in streams. Bridges shall be the ideal with puncheons, culverts or “hardening” being considered should resource limitations, infrequent water flow, or low use combine to make a bridge impractical. Prioritization of water crossings should be considered with high use crossings receiving first resources.

Rationale: Minimize impacts to the stream channel and environment.
Create a safe and sustainable passages for trail users.
Work within limits of resource availability and predicted impacts.

10. Tree Cutting/Care:

Prudent efforts to avoid cutting trees should be made in routing the trail. Greater care should be extended with older and/or slow growing trees and shrubs. Dirt excavated from the trail bed should be distributed and not allowed to mass at the base of trees. All efforts should be made to avoid cutting roots greater than 4” in diameter. Generally, a trail should not be located on the downhill slope within 2 feet of the base of oaks greater than 2 feet in diameter.

Rationale: Minimize disruption to the vegetation along trail.
Protect the health of vegetation along trail

11. Pruning

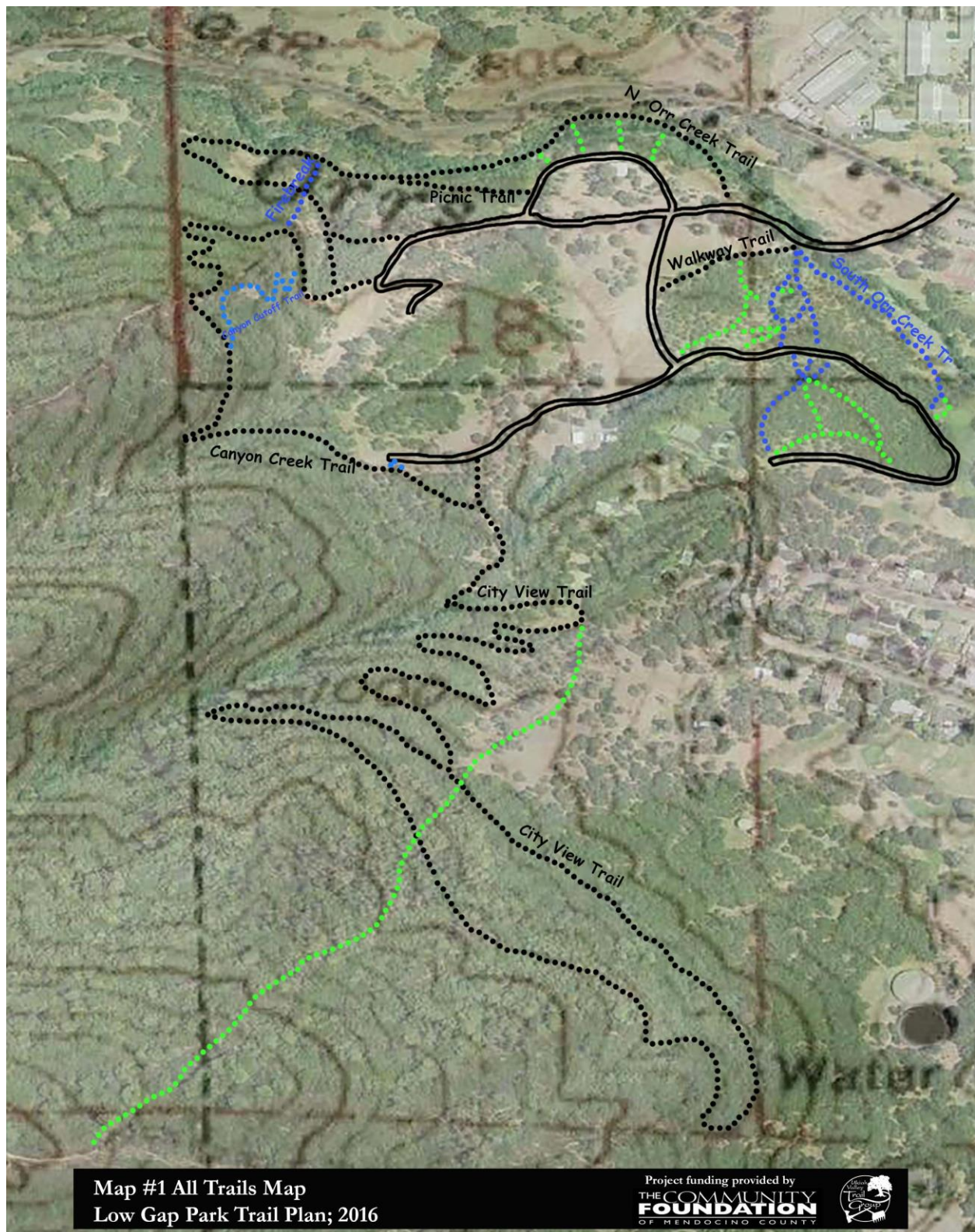
Pruning vegetation is an essential and regular part of trail maintenance, especially in brushy chaparral areas. Equestrian trails should have 10' vertical clearance while hiking/biking trails can be maintained with 7' clearance. Greater than four foot horizontal clearance should be avoided as it creates unnecessary disruption and decreases the aesthetic of the trail experience.

Attempts should be made to ensure that pruned branches are distributed in a natural manner with the cut ends away from the trail. Pruning should be done sensitively so that the trail appears natural. Prune to the collar of any branch stem for the health of the shrub and a more natural looking result. At the base of any branch there is a wide section that contains a plant's natural healing agents. Any pruning performed away from this collar will expose the plant to a greater risk of infection. A cut at the collar will naturally heal. For large branches over 2" in diameter, cut from the bottom, then cut down from the top. This prevents tearing of the bark, reducing infection.

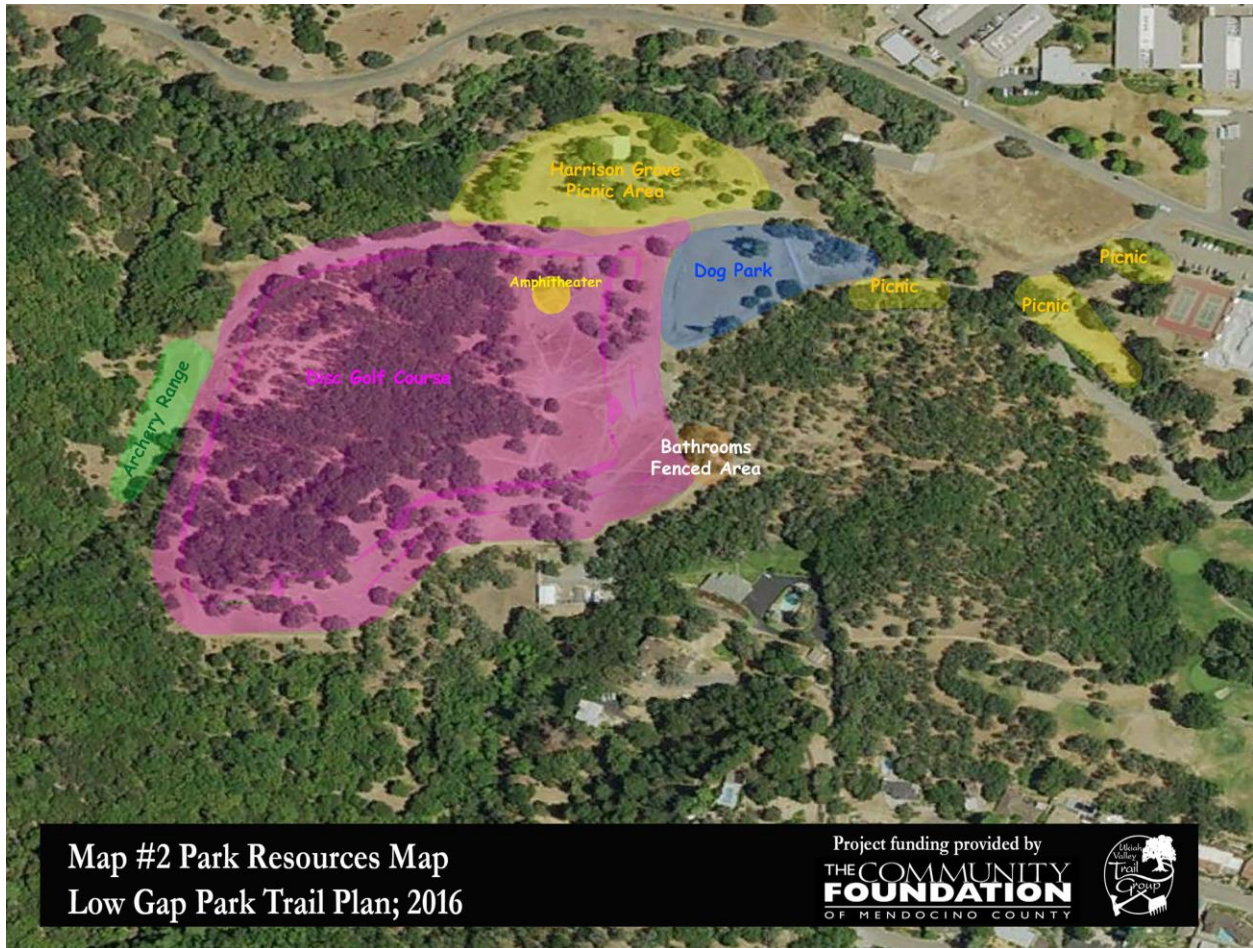
Rationale: Maintain safe sight lines along trail.
Protect the health of the vegetation.
Maintain a naturally aesthetic setting.

Maps

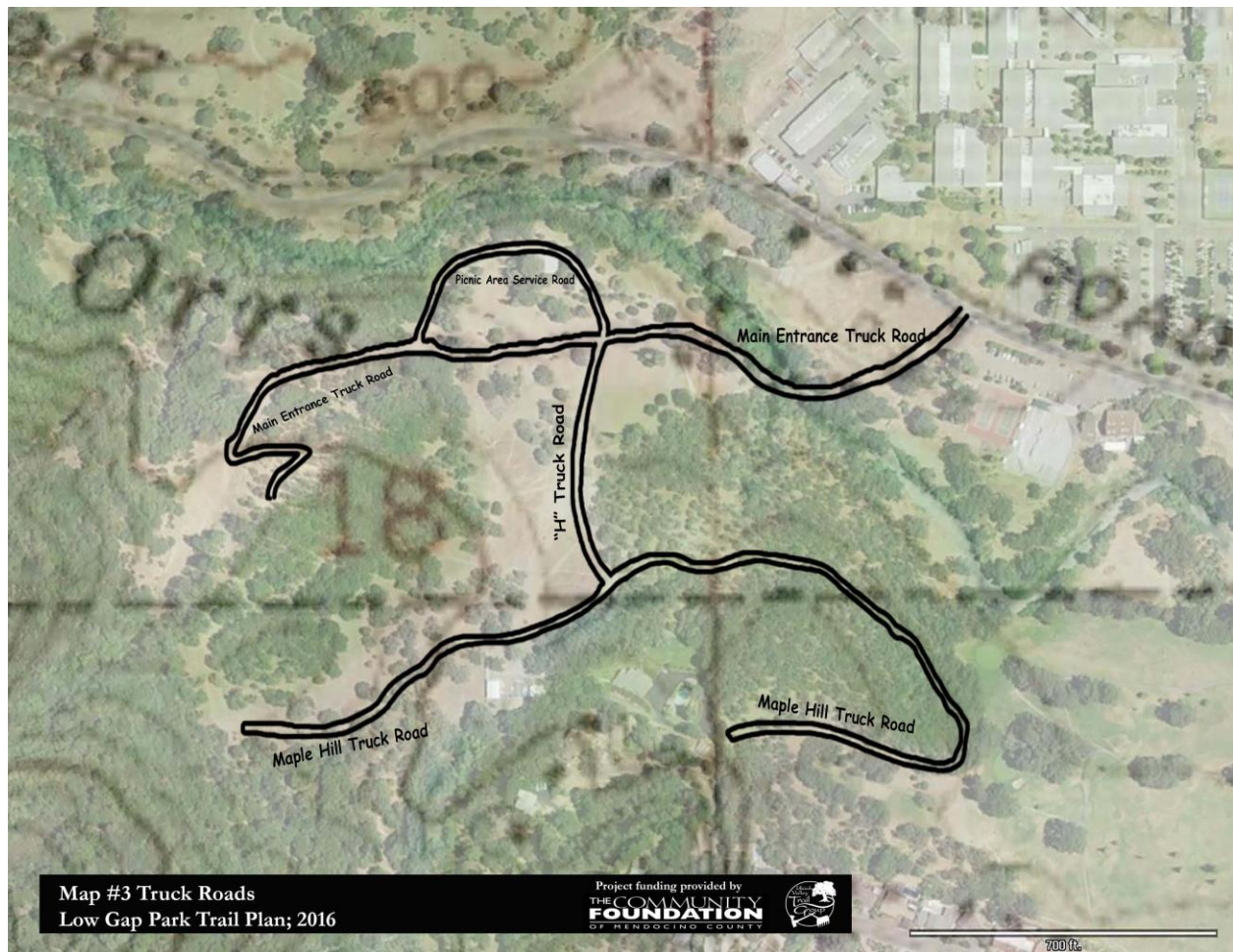
Map #1 – All Trail Map



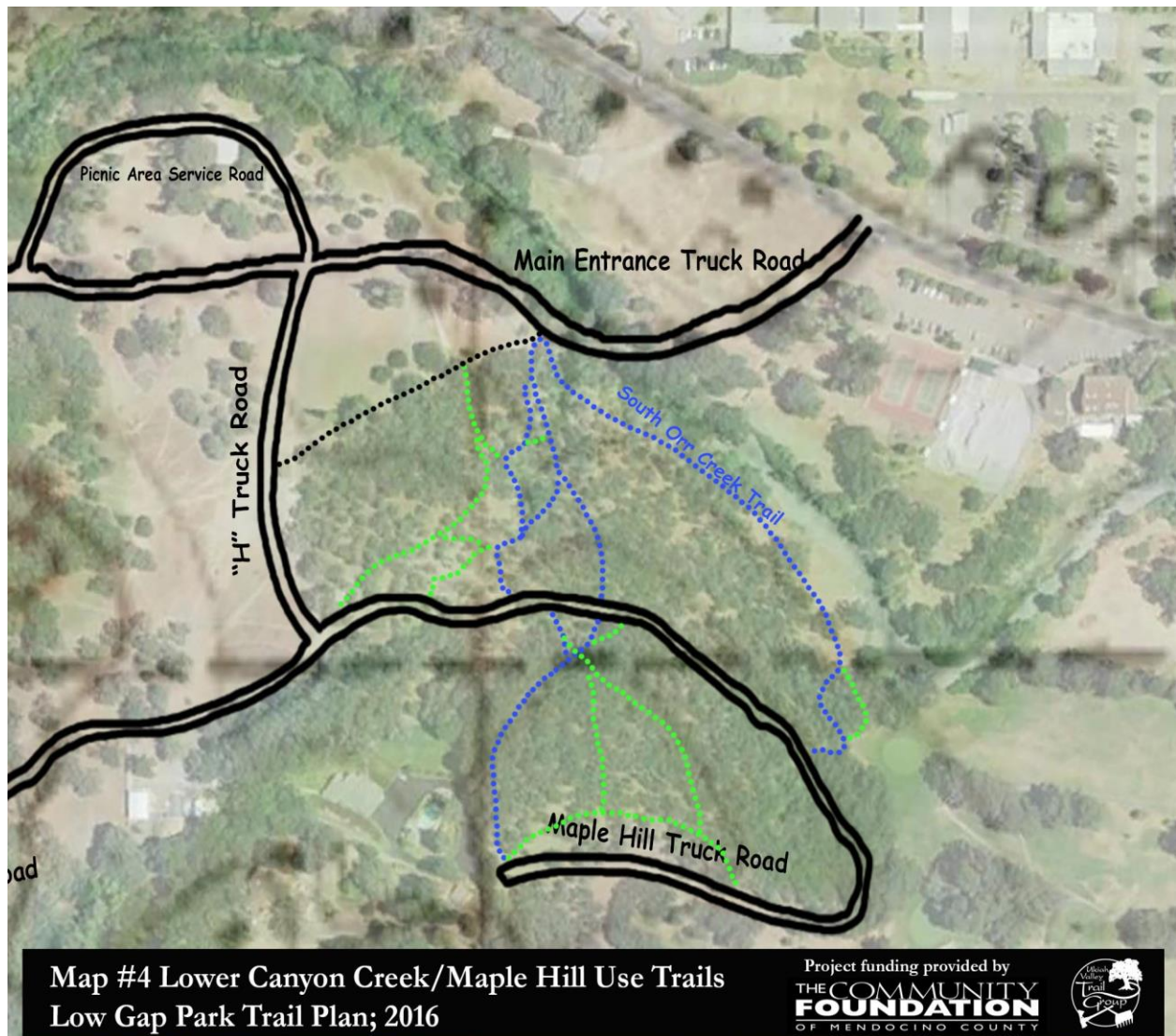
Map #2 – Park Resources Map



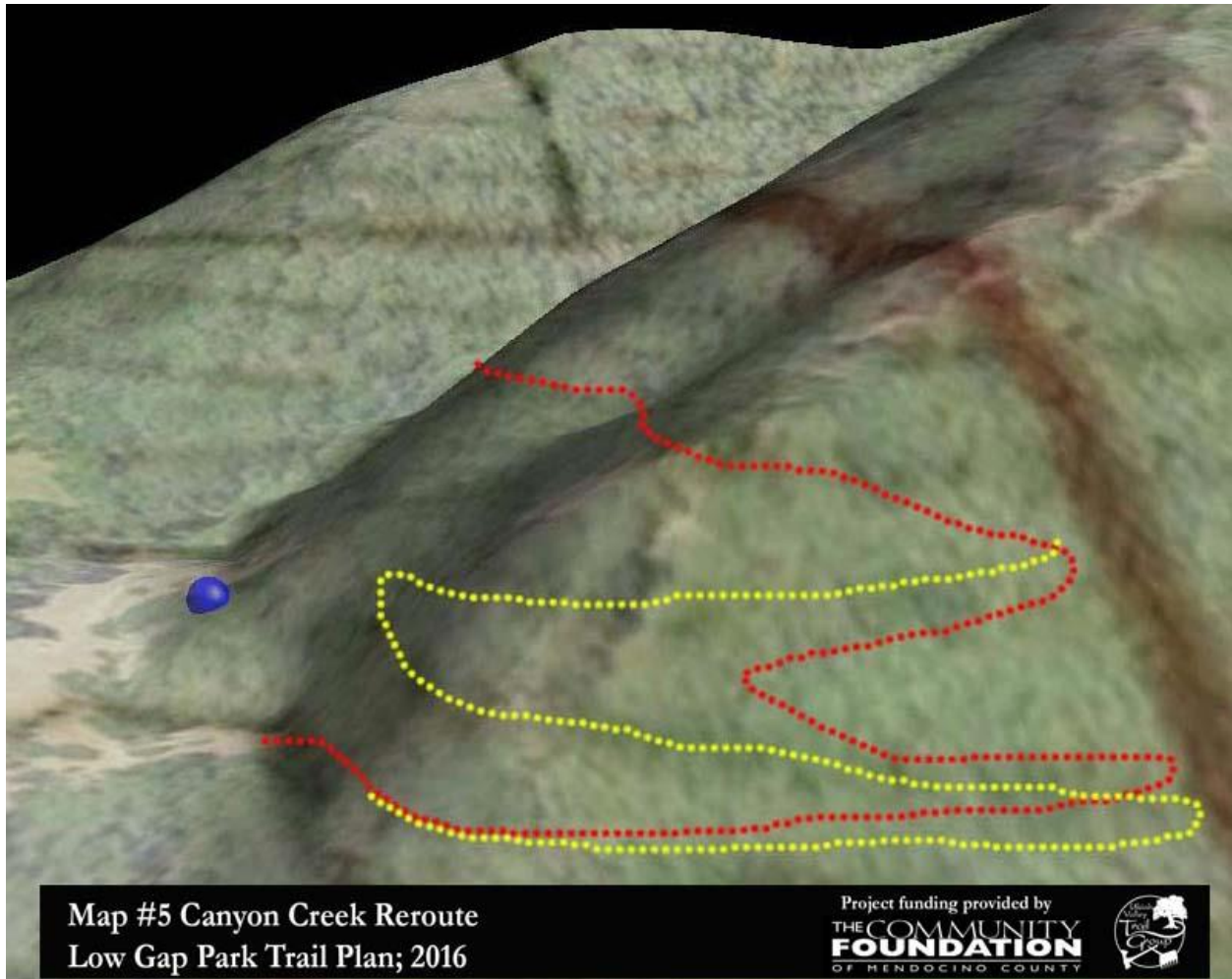
Map #3 – Truck Roads



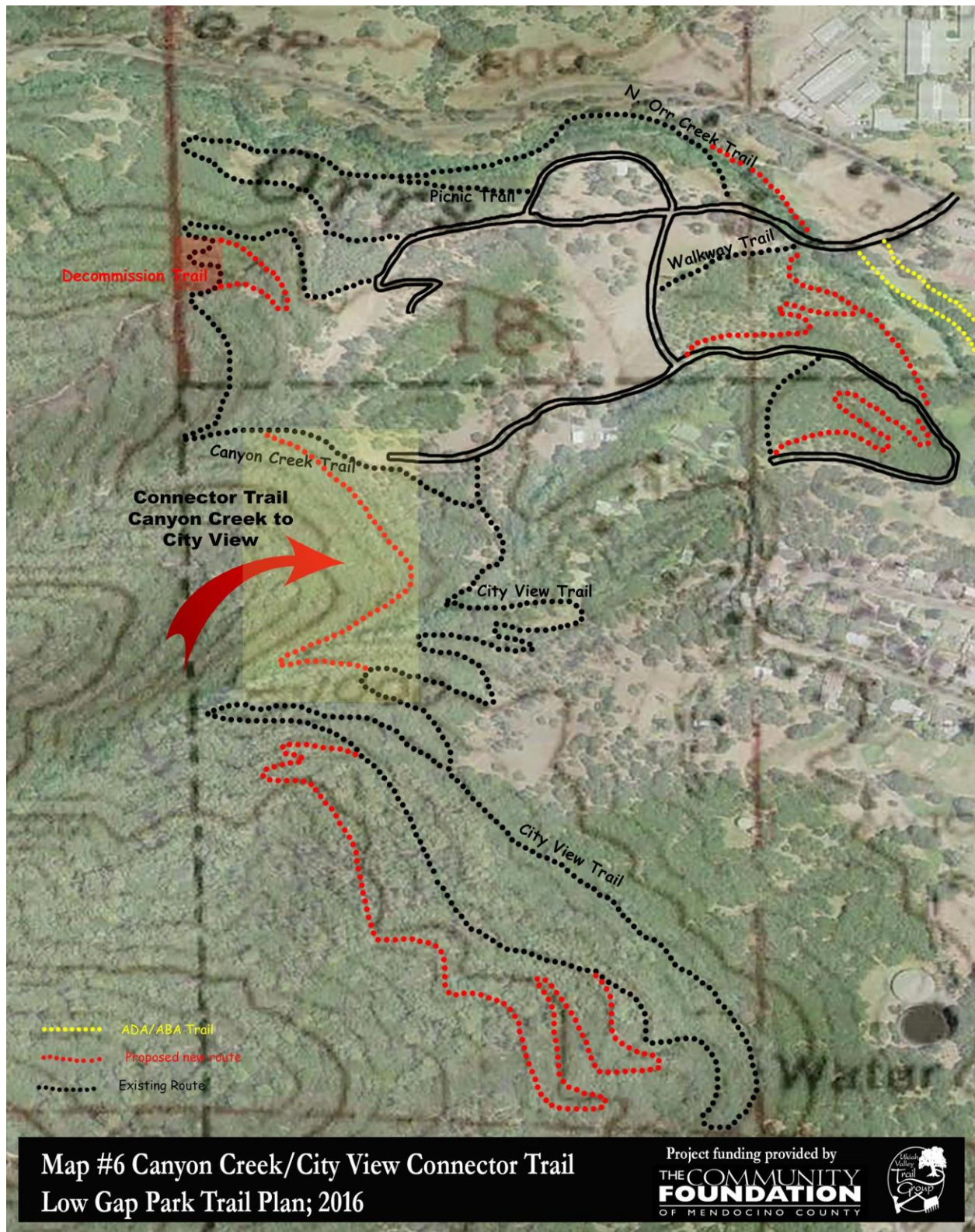
Map #4 – Lower Canyon Creek/Maple Hill Use Trails



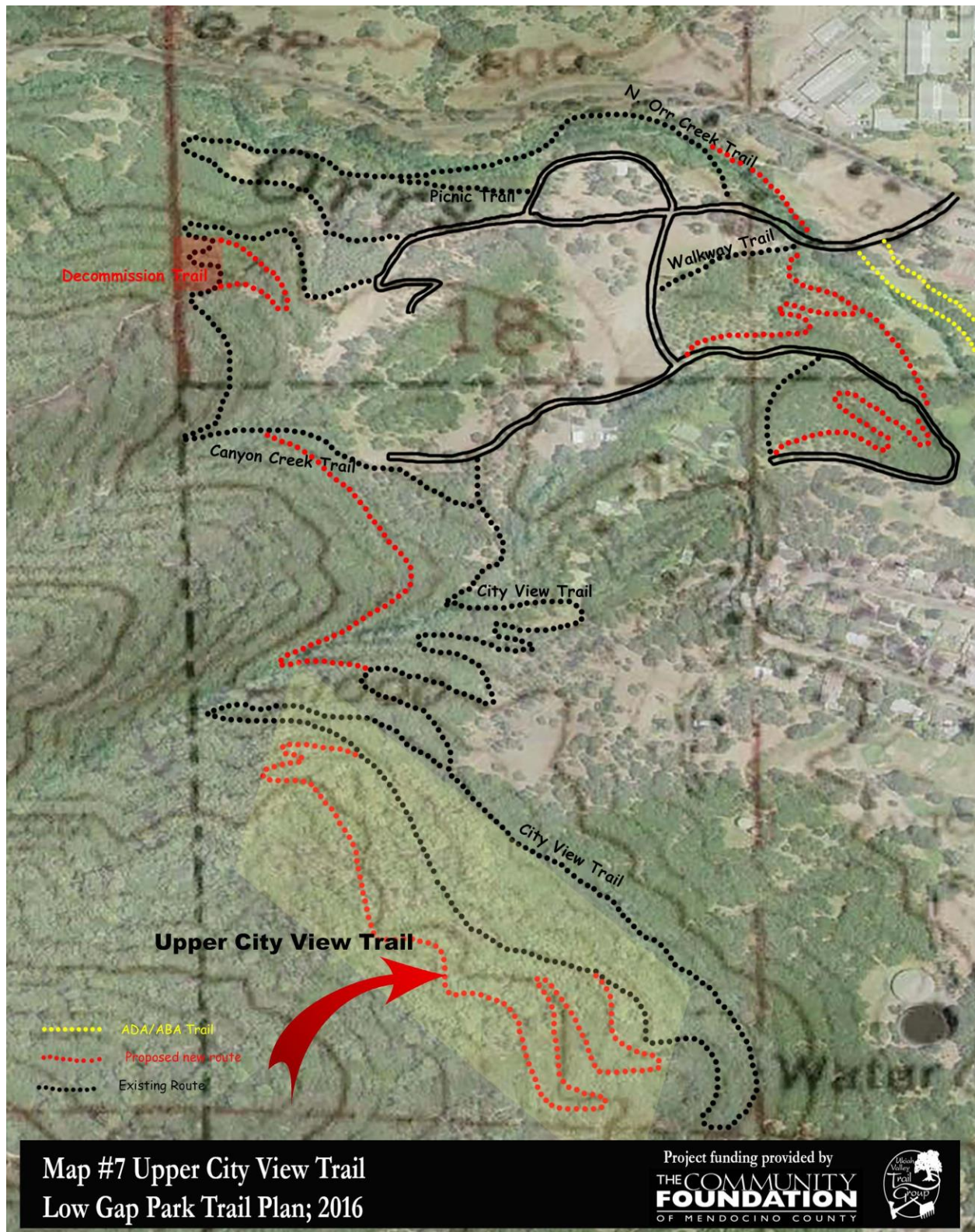
Map #5 – Canyon Creek Reroute



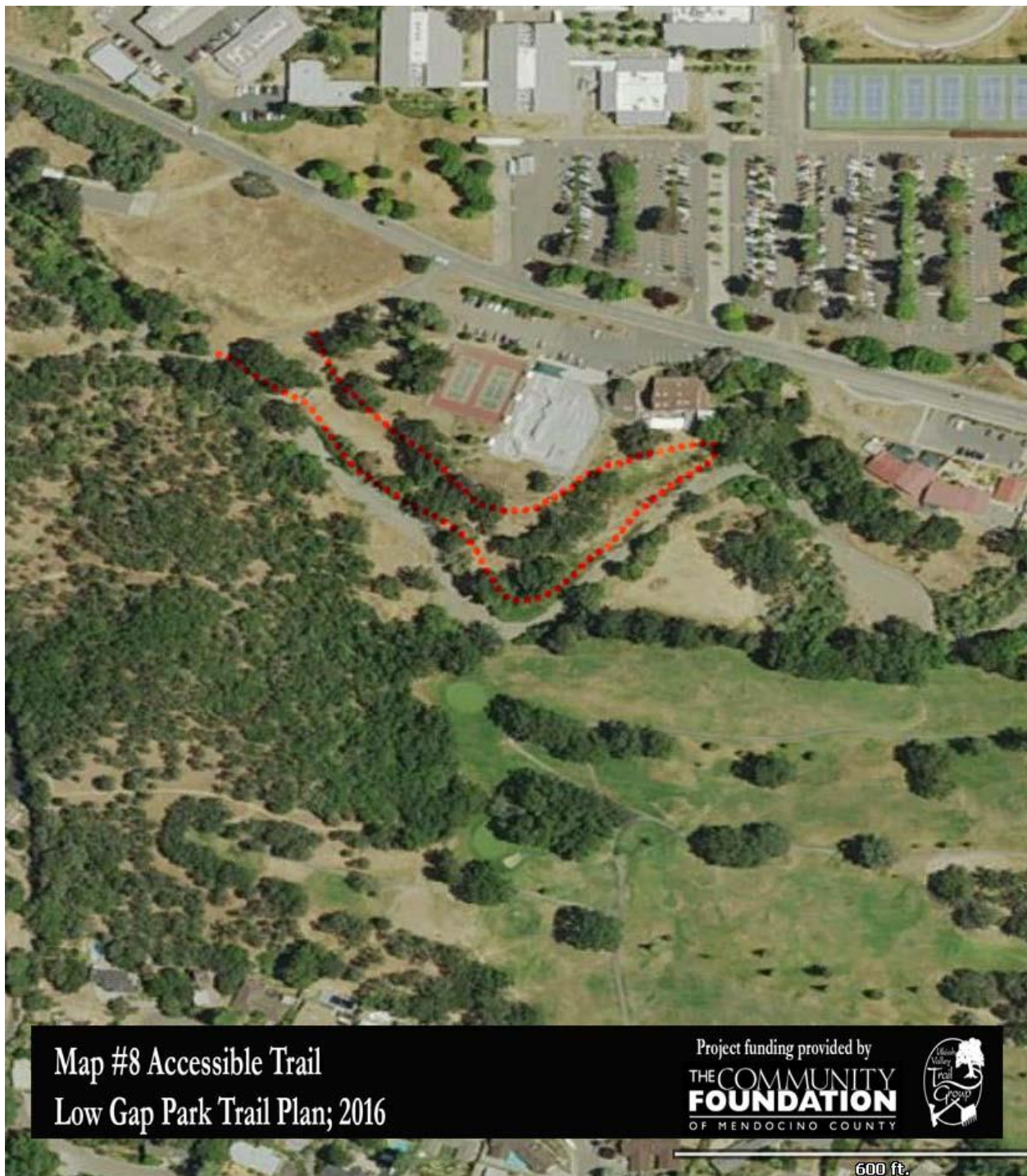
Map #6 – Canyon Creek/City View Connector Trail



Map #7 – Upper City View Trail



Map #8 - Accessible Trail



Map #9 Orr Creek Greenway



Glossary

Fire Break – a clearing, usually on a ridge designed to stop fire. Typically at least 8’ wide. Although trails can act as small firebreaks and have been known to stop fires and can be used as locations to start backfires, a firebreak is not a trail. Firebreaks are often very steep. A small subgroup of users may appreciate the physical challenge of hiking on these steep grades.

Goat Trail – See Use Trail

Puncheon – A short, low bridge. Usually 8’ or less long and less than three feet off the ground; typically does not require a handrail.

Reroute – a trail maintenance project that starts and ends on a single existing trail and abandons the trail between those points will be termed a reroute.

Road - Any transportation corridor designed for motor vehicle use and open to motor vehicle use. Although roads may be necessary for maintenance, further road building should be avoided and road closures should be pursued where possible. A road may be used for recreation but is not a trail.

Trail - A trail is specifically designed, designated, developed, and maintained as a recreational corridor for the exclusive use of non-motorized vehicles. It is typically not more than 4 feet wide, unpaved and generally requires users to travel single file.

Trail Maintenance and Repair ² - Maintenance and repair of existing trail is performed to return the trail or trail segment to the standards or conditions to which it was originally designed and built, or to improve it to comply with more current design standards to achieve sustainability. The act of maintenance and repair includes but is not limited to:

- Removal of debris and vegetation from the trail corridor, clearing encroaching brush and grasses, removing rock slides, etc.- Maintenance of trail tread such as filling ruts and entrenchments; reshaping trail bed, repairing trail surface and washouts; installing rip rap; constructing retaining wall or cribbing
- Erosion control and drainage, replacing or installing necessary drainage structures, water bars, culverts; realigning sections of trail to deter erosion or avoid boggy/marshy areas.
- Repair or replacement of existing trail structures.
- Upgrades and short reroutes to improve sustainability and decrease maintenance needs.

Universal Trail Assessment Process (or Plan) –

The UTAP objectively documents the actual conditions in outdoor, natural environments. The UTAP is a tool that land managers, agencies, and individuals can utilize to learn about, monitor, improve, and use on any outdoor path of travel.

Use (or User) Trail (Goat Trail)- A Use Trail is a trail that has been created without a planning process and or approval by the repeated historic exploration of users. Sometimes referred to as a Goat Trail.

References:

Weber, Peter (Ed). 2007 *Managing Mountain Biking: IMBA's Guide to Providing Great Riding* International Mountain Biking Association. Boulder CO ISBN978-9755023-1-X

Birkby, Robert. 2005 *Lightly on the Land: The SCA Trail Building and Maintenance Manual*. 2nd edition. The Mountaineers Books. Seattle WA ISBN

Felton, Vernon. 2004 *Trail Solutions; How to Build Sweet Single Track*. Johnson Printing, boulder CO ISBN 0-9755023-0-1

Flink, Charles, A. Olka, Kristine, Searns, Robert. *Trails for the Twenty-First Century; Planning, Design, and Management Manual for Multi-Use Trails* 2nd Edition. Island Press, Washington, Covelo, London.

Parker, Troy Scott, 2004. *Natural Surface Trails by Design*. NatureShape, Boulder,CO. ISBN0-9755872-0-X

Steinholz, Robert & Vachowski, Brian. 2001. *Wetland Trail Design and Construction*. USDA Forest Service Technology and Development Program Misoula, MT 8E82A3

Birchard, William & Proudman, Robert 2000 *Appalachian Trail: Design, Construction, and Maintenance*. 2nd Edition Appalachian Trail Conference Harper's Ferry WV

Demrow, Carl & Salisbury, David 1998. *The Complete Guide to Trail Building and Maintenance*, 3rd Edition. Appalachian Mountain Club Books. Boston, MA ISBN1-878239-54-6

Federal Highway Administration. Office of Planning, Environment, & Realty (HEP)
http://www.fhwa.dot.gov/environment/recreational_trails/publications/rwt/fencing.cfm

Acknowledgements:

Thanks to the following volunteers who assisted in the UTAP assessments of trails. Marc Carson, Mark Cerri, Andrea Davis, Jim Hatfield, Howie Hawkes, Alan Nicholson, Steve Prochter, and Lisa Ray. Also thanks to John Bilderbeck, Gail Johnson, Dave Lohse, and Bill Radtkey for assistance with formatting and editing of the plan.

This trail plan made possible by the generous funding of the Community Foundation of Mendocino County.

DRAFT