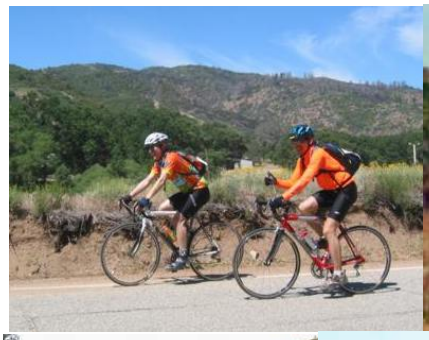
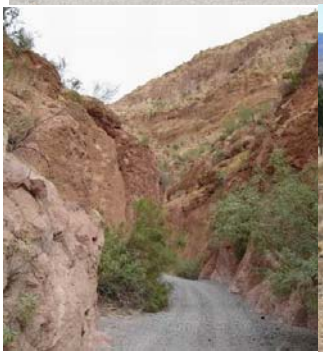
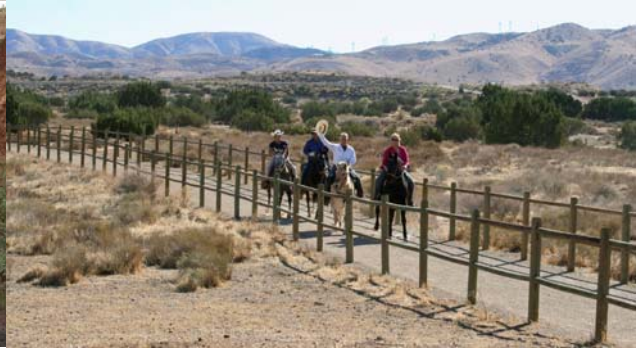
TRAIL
POLICY AND PROCEDURES:

ADDRESSING LANDOWNER, CONSTRUCTION, MAINTENANCE, AND USE ISSUES FOR ANTELOPE VALLEY CONSERVANCY'S TRAILS



Antelope Valley Conservancy
Quartz Hill, California
2008
www.avconservancy.org

Printed in the United States of America.

First publication, December 2008.

Library of Congress Catalog Number: _____
Antelope Valley Conservancy.
Trail Policy and Procedures.

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Introduction

Who Developed the Trail Policy

The Antelope Valley Conservancy is a local land trust, incorporated as a 501(c)(3) public benefit corporation in 2005. It is devoted to land conservation, to maintain native habitats, watershed resources, community character, scenic beauty, and trails.

The focus of Conservancy operations is the Antelope-Fremont Valleys Watershed and upper Santa Clara River Watershed (lakes communities), in northern Los Angeles County and southern Kern County, in California. In 2006, the Conservancy formed the Antelope Valley Trails Recreation and Environment Committee (AVTREC), to bring the 25-year-old regional trails council into the Conservancy.

The Trail Policy Project

The Conservancy recognized the need to develop and adopt consistent Trail Policy and Procedures for trail development, maintenance, administration, and use. The Trail Policy would apply to the Conservancy's lands and managed trail easements, and would communicate the Conservancy's trail management practices to landowners considering a donation of land or trail easement.

The Conservancy was granted consultant services from the Rivers, Trails and Conservation Assistance Program to help develop a Trail Policy and Procedures. A Project Team was recruited, comprised of volunteers representing various trail interests. The Team devoted a yearlong effort to develop this Trail Policy and Procedures, first identifying trail issues, then reading and summarizing existing trail documents, contributing personal experience and perspectives in roundtable discussion, and drafting and editing the Trail Policy and Procedures document.

Importance of Trails

Trail Systems are vital elements of sustainable regions. Trails provide access to natural and historically significant areas, for maintenance, for interpretation and study, and for understanding our relationship with the natural environment. Trails enhance public health (physical, mental, and social), enhance the regional economy by providing desirable amenities for the region. Some trails provide alternative transportation.

As the Antelope Valley's population continues to grow, the need for additional outdoor recreation opportunities increases, as does the pressure on natural areas. Once

land is developed, connectivity of existing trail systems is lost, and opportunities for new trails are lost. The community character of the Antelope Valley is based on natural desert habitats, panoramic vistas, proximity to natural recreation opportunities, and regional connectivity of multi-use trails. The Conservancy's Trail Policy provides the direction needed to promote the sustainability of trail related recreation opportunities.

The Conservancy acknowledges the vital importance of trails to the community. Therefore, codifying how trails are developed, maintained and used is critical to fulfilling these objectives while ensuring habitat sustainability, integrity, and wildlife use.

CARE: Trail Values Identified in the Project

The Trail Policy Project team found that the existing trail literature was strong on trail construction methods but weak on advice as to how diverse trail users can share the trail. The project team decided to classify trails based on user qualities, and identified the following underlying trail values, incorporated in the acronym "CARE":

- The goal of trails is the enjoyment of the land and community in a safe environment. Safe enjoyment takes precedence over recreational speed or physical challenge. Therefore, a maximum speed is established for all trails, which is the speed that is safe, under the existing trail conditions and users, and in no event greater than 15 mph. COURTESY is a fundamental value of trail use.

- Trails should provide recreational experience of viewing nature, and must avoid negative impacts on habitat, watershed resources, or wildlife movement. Therefore, AVOIDANCE of impacts on nature is a fundamental value of trail use.

- Trails belong where they can be accessed by the community, and trails should connect to regional trails whenever possible. Therefore, the connectivity of a REGIONAL trail system is an underlying value of trail use.

- This Policy is committed to multi-use trail opportunities, for hikers, equestrians, and bicyclists, without exclusion or discrimination. The project team concluded that the sole impediment to shared use is a lack of knowledge or consideration of how one's actions impact other trail users. Therefore, signage is important, and EDUCATION is a fundamental value of trail use.

Use of this Policy by Others

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Therefore, adoption notifications and reproduction permission requests should be directed in writing to:

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Acknowledgements

The volunteers of the Trail Policy Project were Elaine Macdonald, Ginger Stout, Jim Donovan, Kaye Bruns, Mark Stiver, Mike Gross, Nathan Krumm, and Wendy Reed. Many hours were spent, in the year of the project, reading and summarizing documents, participating in roundtable discussions, performing additional research, and drafting and editing the final document. We are deeply grateful to these volunteers along with all the other contributors of information, for their participation in this project and all their valuable contributions to our regional community.

We extend special recognition to Antelope Valley Conservancy founder Wendy Reed, who conceived, designed, and facilitated the project; to Jim Donovan, the consultant provided to the project under grant from the Rivers, Trails, and Conservation Assistance Program of the National Park Service, whose experience and research library provided valuable insight; to Nate Krumm and Mark Stiver, who did more than their share on this project; and to Elaine Macdonald, who has devoted two decades of work to trail advocacy, negotiations, mapping, and AVTREC leadership, to preserve Antelope Valley's trails.

We also acknowledge, and dedicate this document to, Antelope Valley's historic preservationists — Jane Pinheiro, Gloria Gossard, Elyze Clifford, Ed Skinner, Eleanor Swanson-Young, Richard "Dic" Dowen, Ann Gregg, Milt Stark, and so many others — whose voices and efforts not only preserved Antelope Valley habitats and trails, but inspired other voices and efforts to continue this important work.

We acknowledge and extend our appreciation to the landowners and governments that preserve trails for future generations.

And we extend our gratitude to you – the reader, the landowner, the trail user, the trail manager – for your interest in trail issues.

Chapter 1

Trail Classifications

The Project Team anticipated that the Conservancy would mainly have natural surface trails. The Project Team found the trail classifications from the Trails Handbook of the California Resources Agency Department of Parks and Recreation difficult to apply to this project's synthesis of a dozen policy documents, and developed the following trail classifications based on types of users and types of compatible uses. [1]

- W1 – All foot traffic, including baby strollers and small-wheeled carts. Hard surface, no stairs. Compatible with B1 uses unless use volume high, and construction incorporates B1 lines of sight and required radii on bends.
- W2 – Walking trails. Natural surface. May include grades less than 10%.
- W3 – Challenging walking trails. Natural surface. Grades may exceed 10%.
- B1 – Paved bicycle paths. The project team did not consider this a "trail".
- B2 – All-terrain bicycle trail. Natural surface. Grades less than 10%.
- B3 – Challenging all-terrain bicycle trail. Natural surface. Grades may exceed 10%.
- H1 – All equestrians. Natural surface. Grades less than 10%.
- H2 – Difficult equestrian use. Natural surface. May be obstacles, difficult grades, difficult surfaces.
- A1 – Wheelchair accessible.
- S – Special use. May be equipped for blind, deaf, sensory, challenge, future technologies, or other special uses. Might have railings or cane guides, Braille signage, or accommodate a sport use.

On the whole, trails in the Conservancy's service area are single-tread trails that experience a very low volume of traffic. These are predominantly W2 trails, but could be other classifications. Despite developed trail specifications in this Policy, the Team's recommendation for single-track, low use trails is to retain such trails in their natural state until the volume of use warrants expansion or development. Signage can be erected where necessary to identify the trail and keep users on the trail.

[1] Nothing in this document should be construed as a commitment by Antelope Valley Conservancy to provide any classification of trail, nor are the classifications all-inclusive.

The team classified W1, B2, and H1 as multi-use trails.

The team concluded that best practices for W1, B1, B2, H1, H2, and A1 trails are to be wide enough to provide two-way traffic.

The team concluded that trail sharing difficulties increase with volume of use. Therefore, trails should be located where trail width can be expanded to accommodate increased usage. Parallel treads should be used where appropriate, for example, for high volume equestrian usage from a commercial stable, or high volume bicycle traffic.

Chapter 2

Landowner Concerns

Many historically used Antelope Valley trails are undedicated trails that cross privately owned lands. Landowners are concerned about who will use the trail, what impacts to the land the trail might cause, how the trail will be maintained, and what liabilities might result from trail use.

Liability

All trails are "Use At Own Risk". Postings and trail information should clearly state that users use the trail at their own risk.

Under the California Recreational Use Statute (see Appendix II), landowners and trail owners are immune from liability for injuries arising from trail use.

Scheduled periodic trail inspection and maintenance is conducted, to discover and correct any problem areas.

Property Values

Trails increase property values, quality of life, and local economies.

Users of the Washington and Old Dominion Trail in Virginia spend about $12 million annually related to their use recreational use of the trail, of which $7 million is spent directly in the northern Virginia economy. In Iowa, the annual "Bike Ride Across Iowa" brings 10,000 riders and their families for the six-day event, and the economic benefit is estimated at $2 million per town. And, in a 2002 survey commissioned by the National Association of Realtors (NAW) and the National Association of Homebuilders (NAHB), respondents ranked walking/jogging/bike trails at 36%, second only to highway access. [2]

Along the Delaware and Raritan Multi-Use Trail in Central New Jersey. According to James Amon, Executive Director of the D&R Canal Commission, property

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[2] Easton, Terry (2004). **The Business of Trails: a compilation of economic benefits**. **By Terry Eastin, Executive Director, Mississippi River Trail, Inc. www.mississippirivertrail.org.**

values adjacent to the park and trail have increased. Additionally, businesses have been created in response to user demand, such as rental concessionaires and restaurants.[3]

Trails have been shown to bolster property values and make adjacent properties easier to sell. Studies of property values along trails show that lots adjacent to trails sell faster and for an average of 6-9% more than similar properties not located next to trails.[4]

Responsibilities of Owner

An owner of property who has granted a trail easement may not restrict access to the trail, or use of the trail, or encroach upon the trail easement. This may be incorporated into a deed restriction or the Covenants, Conditions and Restrictions (CC&Rs) of the development.

A property owner who has granted a trail easement may not make alterations to the land that damage the trail, including but not limited to changes to drainage or changes that cause blockage of the trail. Work to correct, or costs to correct, such alterations made by owner would be borne by owner. The landowner should report problems or maintenance needs to the Conservancy.

Landowner use of motorized vehicles along trails is prohibited.

If driveways are installed that cross designated trails, they should be heavily textured concrete, treated with bushhammer finish perpendicular to the trail, bomanite, or other non-slip surfaces.

Responsibilities of Easement Holder

A trail easement holder may not block or otherwise prevent appropriate use of the trail, or convert the use to other than a trail. An easement holder is responsible for diligent efforts to defend the easement and prevent encroachments. The easement holder is responsible for the reasonable maintenance of the trail condition, and must ensure the documentation and maintenance records of trail assets, condition, maintenance activities, and any easement infringements, problems, or other issues.

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[3] Railroads Recycled, Rails to Trails Conservancy, Washington, D.C., 1990.

[4] Trails and Greenways Clearinghouse, Washington, DC. www.trailsandgreenways.org

Chapter 3
Trail Construction

General Concerns

New trails should be designed and construction overseen by experts, to fulfill these guidelines in this Policy document. However, adopted existing trails may not fulfill the guidelines, and modification may not be feasible.

Trail conflicts increase with usage volume. Trails should be located along easements and in areas where the trail can either be built to a width that accommodates estimated maximum capacity, or which offer the opportunity to be widened in the future to accommodate increased usage.

Trails should be located at least 10 feet from roadways, and, as described below in more detail, should avoid streambeds, known wildlife sites, riparian habitats, and other sensitive areas.

Surface Materials

General: Trail materials should be consistent with the surroundings and the type of intended usage. Existing natural materials from the local surroundings should be used as much as possible. Other considerations in the choice of materials are (1) minimizing water erosion, (2) resource protection, (3) safety (i.e. minimizing slipping in wet or dry conditions), and (4) handicap access (if applicable).

Subgrade: Existing soil is preferred, but a man-made layer of crushed stone may be applied over native soil if needed for drainage. The subgrade layer should be at least 4 – 8" deep, depending on native soil condition and amount of traffic expected. Seasonally wet areas on natural trails may use an over-layer of cypress, redwood, or cedar poles, cut to the width of the trail, to provide a firm foundation.

Tread: Suitable materials depend on the type of trail, as listed in the table below.

ID	Type	Tread Materials
W1	All foot traffic	Asphalt, concrete, or stabilized soil
W2	Walking trail	Native surface (soil and/or rocks) is preferred, but decomposed granite or aggregate base material may be used. Crushed rock with diameters greater than 4" is *not* permitted. Obstacles and protrusions should be less than 9".
W3	Challenging walking trail	Any natural surface, modified only as necessary to prevent erosion and eliminate obstacles and steps greater than 12"
B1	Paved bike path	Asphalt or concrete
B2	Bike trail	Natural hard soil or rock surface is preferred, but decomposed granite or similar materials may be used to improve hardness or durability. Sand or gravel should be avoided if at all possible. Obstacles and protrusions should be less than 2-3".
B3	Challenging bike trail	Any natural surface, modified only as necessary to prevent erosion and eliminate obstacles and steps greater than 12"
H1	Equestrian	Native surface (soil and/or rocks) is preferred, but man-made materials may be used if they are non-slip or textured. Decomposed Granite is often used. Crushed rock with diameters greater than 2" is *not* permitted. Obstacles and protrusions less than 9".
H2	Difficult equestrian	Any natural surface, modified only as necessary to prevent erosion and eliminate obstacles and steps greater than 12"
A1	Wheelchair accessible	Asphalt or concrete
A2	For visually impaired	Asphalt, concrete, or chemically-stabilized soil

Trail Width

The Project Team concluded that trail sharing difficulties increase with volume of use. Ideally, trail width would be able to be expanded to accommodate increased usage. In urban or suburban locations, a trail corridor would ideally be 20 feet wide.

Parallel treads should be used where appropriate, for example, for high volume equestrian usage from a commercial stable, or high volume bicycle traffic.

General: In undeveloped areas, trails should be only as wide as necessary for the intended traffic. Heavily used trails should be twice the width shown in the table below, to accommodate two-way traffic. Multi-use trails may use two treads, separated by a few feet or by vegetation, for equestrians/pedestrians (softer surface) and bicyclists/wheelchairs (harder surface). A wider tread should be used (if possible) near precipices or other hazards. Narrower treads may be necessary in some places on steep slopes.

Easement: Trail easements should be a minimum of 20 ft, excluding any paved roads or buildings (but possibly including a separate sidewalk in developed areas).

Tread: Minimum tread width depends on intended use, as listed in the table below.

ID	Type	Tread Width (light to medium traffic)
W1	All foot traffic	2 ft to 6 ft.
W2	Walking trail	1-1/2 to 2 ft
W3	Challenging walking trail	1-1/2 ft
B1	Paved bike path	3 ft to 10 ft.
B2	Bike trail	2 ft to 6 ft.
B3	Challenging bike trail	1-1/2 ft
H1	Equestrian	3 ft to 6 ft.
H2	Difficult equestrian	3 ft
A1	Wheelchair accessible	6 ft

Clearance

General: Trails should provide a minimum unobstructed area that is free of tree trunks, projecting limbs and rocks, or other obstructions. This minimum area (width x height) depends on both setting and intended use.

Urban/Suburban Trails: unobstructed area should be at least 12 ft wide by 10 ft high.

Rural or Wilderness: unobstructed area should be at least 8 ft wide by 8 ft high (10 ft high for equestrians). Cleared area may be arched (narrower) at the top to keep traffic toward the center or inside of the trail.

ID	Type	Clearance Width	Clearance Height
W1	All foot traffic	12 ft	8 ft
W2	Walking trail	12 ft	8 ft
W3	Challenging walking trail	8 ft	8 ft
B1	Paved bike path	12 ft	8 ft
B2	Bike trail	12 ft	8 ft
B3	Challenging bike trail	8 ft	8 ft
H1	Equestrian	14 ft	10 ft
H2	Difficult equestrian	8 ft	10 ft
A1	Wheelchair accessible	12 ft	8 ft
A2	For visually impaired	12 ft	8 ft

Integration with Terrain

Trails should follow natural contours, and incorporate turns and elevation changes to break up straight lines and provide visual interest. They should include vista points/overlooks as well as historic sites and structures to enhance the trail experience.

Loop trails of various lengths are desirable, as are trails that go to a view or other interesting land point.

The priority for design is (1) provide access without harming natural resources, and (2) aesthetics. Resource values always take precedence. If a compromise needs to be made, it should be in trail design, not the natural resources.

Signage

General: Obvious but unobtrusive signage should be used to (1) describe regulations for use and traffic control, (2) warn of hazards, and (3) provide navigational and interpretive information. Signs should be constructed of highly durable materials that will require minimal maintenance in the expected conditions of sun, temperature, and precipitation. Signs should be located outside of the tread width.

Regulations: Signs at each trailhead and major access points should describe (at a minimum):

(1) Allowed users (equestrian, bicycle, and/or foot traffic)

(2) Prohibition of motorized vehicles.

(3) Speed limit and right-of-way rules and trail etiquette (e.g. no camping, hours of operation)

(4) Legal jurisdiction and enforcement authority.

Where a trail is easily accessed by motor vehicles, such access will be prevented/discouraged by use of fences, bollards, stiles, or natural barriers. At each trailhead shall be a sign saying “Please pick up manure at trailhead and pack out.”

Warnings: Signs warning of general hazards (weather, lack of services, emergency contacts, etc.) should be placed at each trailhead. Signs warning of unusual hazards along the trail should be easily readable, at least 4 feet high.

Crossings: Trails should not cross roads or railroad tracks except at controlled crossings.

Road crossing warnings should be placed on the trail in both directions at least 30 feet before reaching the crossing. In addition, motorists should be warned of all trail crossings (including intersections) in accordance with the motor vehicle code.

Information: Each trailhead should have informational signage including a trail map, trail distances, and level of difficulty. There may also be more extensive signs or

displays describing the natural and other features likely to be encountered. Trail junctions should have signs indicating the destinations and mileage in each direction. Mile markers and interpretive signs along the trail should be unobtrusive, and should be placed outside the cleared path area. Signage should be sufficient that users can navigate the trail without a map. There should be mile markers, and mileage signage at all access points.

Fencing

Fences should be constructed only if required for (1) safety, (2) landowner stipulations, (3) confining stock, (4) restraining people and horses from leaving the trail, or (5) keeping motor vehicles off the trail.

Fences should be made of wood and fit in as well as possible to the natural surroundings. They should not interfere with the movement of wildlife. Use of barbed wire or chain link fences is discouraged. Bollards for the exclusion of motor vehicles should be placed approximately 5 ft apart to allow for the easy passage of horses and bicycles with trailers. Rails will be appropriately spaced to prevent injury to children.

Plantings

Plantings should not normally be added to "natural" trails, unless they replace a fence that would otherwise be required (see "Fencing" section above). If used, they should incorporate native vegetation to the maximum extent possible, and should require little or no maintenance or supplemental water after becoming established.

For urban or suburban trails, landscaping may be used to (1) prevent erosion, (2) screen adjacent property and/or frame views, (3) help block wind, (4) provide shade, or (5) replace fencing that would otherwise be required (see "Fencing" section above). A mowed shoulder may be provided for equestrians and hikers/joggers. Plants should be native or at least compatible with the local climate, so as to require little maintenance. They should be set back or pruned so as not to interfere with the trail's cleared area (see "Clearance" section above).

Slope, Grades, and Turns

Slopes: Trails should be contoured across any slope such that the grade does not exceed half the grade of the fall line ("50% rule"). Grade reversals and outsloped tread should be incorporated to minimize water running along a trail (see next section, Grading for Drainage).

Grades and Turns: Maximum grades and turn radii depend on the type of trail, as listed in the table below.

ID	Type	Maximum Grade	Minimum Turn Radius
W1	All foot traffic	7%	6 ft
W2	Walking trail	10%	6 ft
W3	Challenging walking trail	15% for occasional short pitches	No minimum
B1	Paved bike path	7%	10 ft
B2	Bike trail	7%	10 ft
B3	Challenging bike trail	10% for occasional short distances	No minimum
H1	Equestrian	10%	10 ft
H2	Difficult equestrian	15% for occasional short distances	10 ft
A1	Wheelchair accessible	5%	10 ft

Grading for Drainage

Designing for proper drainage to prevent erosion is the most important design feature of a trail. Surface drainage of trail tread is accomplished by out-sloping, frequent grade dips, and in-slopes with rock-lined drainage tails at switchbacks.

Grade reversals, water breaks, subsurface drainage, and other features can be incorporated to facilitate drainage and prevent erosion. Natural materials should be placed diagonally across the trail from the cut bank side to the outer edge to carry off surface water.

Trails should be outsloped 2% to 10% to minimize water accumulation and gullies along the trail.

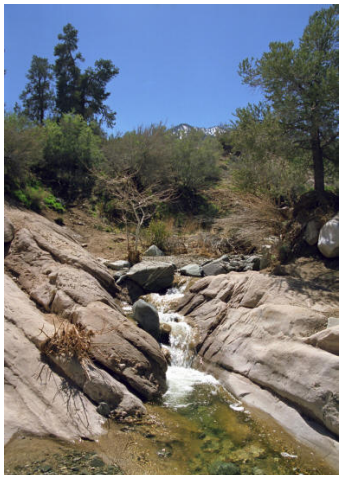
ID	Type	Outslope
W1	All foot traffic	2%
W2	Walking trail	2% to 4%
W3	Challenging walking trail	2% to 10%
B1	Paved bike path	2% to 4%
B2	Bike trail	2% to 4%
B3	Challenging bike trail	2% to 10%
H1	Equestrian	Maximum 4%
H2	Difficult equestrian	Maximum 4%
A1	Wheelchair accessible	Maximum 2%

Trails employ three basic drainage methods:

1. Open system uses swales-shallow drainage channels runs adjacent to the trail (most natural cost effective)
2. Sheet flow- disperses water evenly over the trail
3. Closed system-underground structures, catch basins, culverts etc.

Drainage is affected by soil type. Clay is mostly stable and drains poorly. Silt is moderately stable and drains well. Sand is the least stable and drains very well, but is most subject to erosion. The best foundation for multi-use trails is firm and well drained.

Streambeds



Trails should avoid streambeds and proximity to streambeds. Streambeds support desert animals and plants subject to being crushed. Trails should avoid riparian habitats and other typical nesting locations. If proximity to a streambed is unavoidable, the trail should be built above the normal high water mark.

Trails and trail maintenance activities should never alter or interfere with the natural course and function of a water channel.

In wilderness areas, trails should get to water every four hours of travel, but in town or rural locations this is not necessary, and streambeds should be avoided.

Any necessary stream crossings should be at a right angle. If there is any concern about the watershed or the habitat, a bridge crossing should be provided.

The trail should be marked with signage if it is not obvious, to keep users on the trail.

Striping

The striping of bicycle paths is customary, but striping is not typically used on trails. Striping can be used sparingly, for crosswalks, or to designate roadway crossings or bollards, but other forms of signage are preferable over striping.

Trailheads

Trailheads should be located far away from sensitive areas, impacted areas, or areas of biological significance. Trailheads can provide amenities for users, including trail information, interpretative information, trash cans, water source, restrooms, and hitching rails.

Vehicle parking for an appropriate number of vehicles and staging areas for horse trailers should be located near trailheads.

Signs explaining trail policies should be located at each end of trails.

Wildlife Corridors

Trail routes should avoid known feeding, watering, or nesting areas of wildlife by a distance suggested by environmental scientists, wildlife biologists, or resource agency officials. Shortcuts through sensitive areas should be discouraged by natural impediments and plantings, and noninvasive wildlife viewing opportunities should be incorporated that are safe for both users and wildlife, where appropriate.

Line of Sight

Multi-use trail intersections and approaches should be on relatively flat grades. Road crossings should occur at existing intersections, preferably with crossing controls. A warning sign should be posted, at 50 feet before, with a warning to reduce speed.

Vegetation that blocks line of sight should be cleared. Trails should avoid areas with poor line of sight. Also refer to curve radii (Slope, Grades and Turns, above)

Accessible Trails

It is the objective of the Conservancy's trail program to provide trail access for a variety of physical capabilities, consistent with resource protection goals, budget constraints, and state and federal regulations.

"All access trails" should be hard surface with grades and widths as prescribed above (Construction), and with no steps. Accessible trails should be provided in various areas of the region, and the associated parking lots and trailheads should provide accessible amenities.

Accessible trails require periodic rest areas every 300 feet if there is any grade or slope, and the rest areas should be no less than 5 feet by 5 feet with a maximum of 1% cross slope.

Special Use

The Special Use trail designation is included to provide for the possibility of various types of special use trails. Special trails might include:

- A trail for the blind, with reference edges, tactile surfaces, audible alerts, Braille information, and appropriate tactile and olfactory features.
- A bicycle trials feature, or downhill course.
- Or the incorporation of new technologies, previously incompatible uses, etc.

Conclusion, Trail Construction

This section is not considered to be all-inclusive. As this Policy calls for professionals or experts to perform trail construction duties, this section does not need to be all-inclusive. Excellent and comprehensive trail construction instructions and diagrams can be found in the texts considered in this project, including the Equestrian Trails, Inc. text and the California Resources Agency text (see Appendix I, Texts and Links).

Chapter 4
Trail Maintenance and Oversight

Maintenance Procedures and Frequencies

Baseline inspections and inventories should be conducted for all trail assets. For each trail, a maintenance schedule appropriate to the trail assets and level of usage should be established, a checklist should be prepared for use during future maintenance, a map of the trail should be prepared, and the inventoried assets and their condition should be documented. Projected maintenance costs are estimated based upon the baseline inventory.

The priority of maintenance activities is visitor safety, and protection of the natural resources and trail investment. It is preferable to close the trail during maintenance, to protect trail users and workers, but also because tools and vehicles may be accessible during work, and subject to loss.

All trails under management should be inspected, statused (documented), and repaired no less than annually. Reports should be analyzed yearly.

Two types of maintenance are conducted: *Annual Maintenance*, consisting of drainage maintenance, clearing, tread maintenance, and brushing; and *Project Maintenance*, consisting of rehabilitation, construction, and restoration.

- Cleaning is the removal of litter and debris. It is anticipated that trail cleaning will need to be conducted quite regularly, due to the Antelope Valley's ongoing problem with illegal dumping.
- "Brushing" or "clearing" entails clearing drainages, the trail, and debris uphill from trail or drainage. Branches are sawed flush to tree. Trees less than 10" diameter may be cut flush to soil line. The key to brushing is finding the source. Remove tree roots and level the soil. Ensure that removed materials are properly stashed or removed.
- Tread maintenance:
  1. Restore outslope, inslope, crown surface.
  2. Restore original width.
  3. Maintenance of backslope (angle of repose).
  4. Fill ruts and holes.
  5. Restore damaged areas.
  6. Remove loose rocks.
  7. Restore fill approaches to puncheon and bridges.
  8. Restore crown to turnpike with fine gravel or mineral sand.

Records and Reports

The trail record begins with the baseline inventory, list of maintenance tasks and maintenance schedule, trail budget of anticipated costs, trail maps and photos, GIS and GPS records, recorded deeds and easements, biological data about the surrounding area, and any other site information. Annual and periodic inspection checklists, maintenance checklists, work crew repots, enforcement reports, and trail partner and contractor information should all be included in the trail record.

The inventory of trail features, with measurements to record condition changes if appropriate, is broken into maintenance categories in order to quantify the maintenance workload, life expectancy, and appropriateness of proposed maintenance schedule.

The Conservancy will maintain possession of all trail records, which will be available upon request as appropriate, although nominal copy costs may be charged.

Who Conducts Maintenance

The responsibility for trail maintenance should be clearly delineated when trail is created or adopted. Project maintenance should be done by professionals or skilled trail workers. Annual maintenance can be done by California Conservation Corps, the Youth Conservation Corps, "Adopt a Trail" groups, staff or volunteers. There are many community and statewide groups, trained in trail maintenance and available for hire or volunteer work parties.

The Conservancy will not use prison labor or court-ordered community service workers to perform trail maintenance near residences.

Enforcement

The responsibility for enforcing trail use policies should be clearly delineated when trail is created or adopted. The role of site managers, trail patrols, neighbors, Sheriff's deputies, and others will be delineated when the trail is created or adopted. In addition to educating users to enforce trail policies, alerting law enforcement to crimes, and alerting the Conservancy to trail issues, illegal dumping, or maintenance needs, such trail patrols can provide assistance and information to users. Some trails will be under the jurisdiction and care of a County or City department, or a local agency.

At beginning and end of each season, trail patrols should conduct field surveys to identify potential enforcement problems, and coordinate with the managing agency to address new issues and update procedures for emergencies.

Graffiti

Trail amenities should be designed in a manner that discourages graffiti.

The responsibility for graffiti removal should be clearly delineated when trail is created or adopted. Graffiti can be removed by field crews or volunteer groups, and some municipalities have a graffiti removal task force.

A positive education campaign should be implemented to encourage local youth to enjoy and treasure the trail rather than to tag it. The graffiti hotline should be posted.

Maintenance Work Crew Rules

The priority for work crews is safety. Maintenance crews must be trained in the work to be done, as well as tool use. The crew should do stretching exercises to warm up before beginning work. Proper headgear, gloves, boots, eye protection, and knee guards should be worn when appropriate. Radios should be carried and emergency resources alerted when appropriate to be prepared if injuries occur.

Safety concerns for maintenance activities:

- Avoid accidents by thinking while working. The main causes of accidents are: careless use of tools; unaware of danger; inexperience; over confidence.
- Particular concerns: Do not work during strong winds, rain or lightning. Noxious plants and animals: wear gloves, long sleeves, long pants, boots, face shield if necessary, watch for animals. Wash well, check body for ticks, etc.
- Know accident reporting procedures.

Work crews should ensure they have necessary items for the work, and that needs such as sign replacements have been ordered well in advance of the scheduled work.

Volunteer Rules

The Conservancy has or will develop a Volunteers' Handbook describing general procedures for volunteer activities, emphasizing safety and protection of environmental resources. The Conservancy will provide channels for volunteers to communicate their concerns and recommendations. The Conservancy will provide periodic training for volunteers, or establish certifications from other organizations that are acceptable for certain types of volunteer work. The Conservancy will comply with all applicable laws affecting the use of volunteers, and carry insurance that covers its volunteers.

Conclusion, Trail Maintenance

This section is not considered to be all-inclusive. As this Policy calls for professionals or experts to perform and/or train and oversee trail maintenance activities, this section does not need to be all-inclusive. Excellent and comprehensive trail maintenance instructions and diagrams can be found in the texts considered in this project, including the Equestrian Trails, Inc. text and the California Resources Agency text (see Appendix I, Texts and Links).

Chapter 5

RIGHTS AND RULES OF USE

General

Right of way and rules of use are required for the safety of the users and to protect, preserve the environment near the trail and the landowners' property.

Who can use

It is the Antelope Valley Conservancy's policy that trails should be multi-use (pedestrians, bicycles, and horses) unless there is a compelling reason otherwise. Motorized traffic is prohibited on Conservancy trails, except for maintenance.

The Project Team felt that trail sharing can be promoted by trail design, use policies, and monitoring and accommodation of volume of usage.

Pedestrians include; walkers, hikers, joggers, runners, people pushing baby strollers, and birdwatchers.

Bicycles include; road and mountain bicycles.

Equestrians include; horses with riders, and horses being walked

A multi-use trail can reflect it's predominate users. Regional characteristics and historical local uses should be considered for who uses the trail.

Mountain bicyclists should be directed toward those trails determined to be most suited in regard to safety and resource protection.

Activities not specifically allowed by these Trail Policies and Procedures are prohibited.

Rights of Way / Conventional Trail Etiquette

Stay on the trail.

Be safe – keep aware.

Stay right and use no more than half the trail. Allow oncoming traffic to pass.

"Wheels yield to Heels." Bicycles yield to hikers. Bicycles and hikers yield to horses. When horses pass, it helps to talk a little, so the horses understand you are a human.

"Trail Courtesy" signs (right of way yields) should be posted to educate users. COURTESY is an underlying value of trail use. All users should show consideration for others to promote sharing the trail.

Stay right except when passing. When possible, hikers should step off the trail on the downhill side when allowing horses to pass. Cyclists should give warning before passing, and pass at a slow speed.

Users entering trail should yield to through traffic.

Trail users are prohibited from loitering near homes, or impacting landowners' use and enjoyment of their properties.

Do not deface or damage natural features.

Observe all traffic signs, rules, and regulations.

Do not frighten, molest, destroy, or move any form of wildlife.

Carry out all garbage; no littering; no burying of trash. No smoking or fires; no cigarette butts.

Trail etiquette should be posted on signage.

Equestrians

Trails are to be clearly marked as intended for equestrian use and motorized vehicles prohibited. Signs should indicate right-of-way rules (above). Encourage "share the trail".

The Project Team's research showed that trail managers do not typically remove equine waste or require riders to do so, except at trailheads.

Cyclists

Trailhead signage should inform cyclists of rules and conditions of trail use, and of the need for COURTESY to prevent conflicts among users on multi-use trails.

Cyclists must ride on the right side of the trail and yield to other users (hikers and equestrians).

Maximum speed for all trails is 15 miles per hour or a safe speed, whichever is lower. Safe speed is affected by trail conditions, integrity of trail environment, weather, presence of other users, and other factors. In some situations the safe speed may be a full stop.

Speed must be reduced when nearing pedestrians or equestrians. Speed must be reduced when approaching and navigating curves and turns.

Common complaint on multi-use trails is speeding bicycles. Average speed of pedestrians is 3 mph to 7 mph Bicyclists average 8 mph to 20 mph Equestrians average 4 mph to 8 mph.

Dogs

Dogs are permitted unless otherwise posted. Dogs must be under control and on a leash no longer than 6 feet. Trailhead signage should warn dog owners to maintain control and not allow pets to harass wildlife. Dog droppings must be removed. Animals other than dogs are not permitted.

Loitering

The trail is for moving along, and loitering near landowners' residences is prohibited. Loiterers must get off or to the right of the path in areas where it is appropriate to do so, and in compliance with other policies in this document.

Periodic closures

Periodic closures can be necessary due to maintenance, repair for safety, weather, and seasonal closure for species sustainability.

Signs should be posted indicating why the trail is closed, the dates of closure, and if possible, indicating a detour trail that is the most direct route around the closure. When appropriate, the public and other agencies can be notified.

If trail is kept open during work, when horse riders approach, the work crew should move to the **downhill** side of the trail and turn off all tools. It helps to talk quietly, so the horses know you are human.

Appendix I

Documents and Links

Birkby, Robert C. (Student Conservation Association, Inc.). *Lightly on the Land: the SCA Trail-Building and Maintenance Manual*. The Mountaineers; Seattle, 1996.

California State Parks. Trails Handbook. The Resources Agency, 1991.

Final Bicycle & Pedestrian Policy Committee Report on Class I Trail User Policy. Sacramento area, cross-jurisdictional, 2005.

Flink, Charles A., Kristine Olka and Robert M. Stearns, *Trails for the Twenty-First Century: Planning, Design and Management Manual for Multi-Use Trails*, Island Press (and Rails to Trails Conservancy), Washington, DC, 1993.

Lightly on the Land: the SCA Trail-Building and Maintenance Manual. The Mountaineers (Seattle), 1996.

Los Angeles County Trails Manual. Los Angeles County Parks Department.

Multipurpose Trail Standards for New Developments Within the Acton California Community Services District area. Adopted by Acton Town Council, Acton, California, June 6, 2005.

National Park Service. NPS Trails Management Handbook. U.S. Department of Interior, Denver Service Center, Undated (post 1981).

Parker, Troy Scott, *Natural Surface Trails by Design: Physical and Human Design Essentials of Sustainable, Enjoyable Trails*, Natureshape, Boulder, CO, 2004.

Vogel, Charles. Trails Manual. Equestrian Trails, Sylmar, California, 1982.

USDA Trail Construction & Maintenance Notebook. US Dept. of Agriculture, 2007.

http://www.nps.gov/ncrc/programs/rtca/helpfultools/ht_publications.html#trail

www.AmericanTrails.org *online resource for planning, building, funding, managing, and supporting trails and greenways*

Appendix II

California Recreation Use Statute

California Recreational Use Statute
http://www.americanwhitewater.org/resources/repository/California_Recr...
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California Recreational Use Statute

CIVIL CODE
DIVISION 2: Property
PART 2: Real or Immovable Property
TITLE 3: Rights and Obligations of Owners
CHAPTER 2: Obligations of Owners

§ 846. Duty of care or warning to persons entering property for recreation; Effect of permission to enter

An owner of any estate or any other interest in real property, whether possessory or nonpossessory, owes no duty of care to keep the premises safe for entry or use by others for any recreational purpose or to give any warning of hazardous conditions, uses of, structures, or activities on such premises to persons entering for such purpose, except as provided in this section.

A "recreational purpose," as used in this section, includes such activities as fishing, hunting, camping, water sports, hiking, spelunking, sport parachuting, riding, including animal riding, snowmobiling, and all other types of vehicular riding, rock collecting, sightseeing, picnicking, nature study, nature contacting, recreational gardening, gleaning, hang gliding, winter sports, and viewing or enjoying historical, archaeological, scenic, natural, or scientific sites.

An owner of any estate or any other interest in real property, whether possessory or nonpossessory, who gives permission to another for entry or use for the above purpose upon the premises does not thereby (a) extend any assurance that the premises are safe for such purpose, or (b) constitute the person to whom permission has been granted the legal status of an invitee or licensee to whom a duty of care is owed, or (c) assume responsibility for or incur liability for any injury to person or property caused by any act of such person to whom permission has been granted except as provided in this section.

This section does not limit the liability which otherwise exists (a) for willful or malicious failure to guard or warn against a dangerous condition, use, structure or activity; or (b) for injury suffered in any case where permission to enter for the above purpose was granted for a consideration other than the consideration, if any, paid to said landowner by the state, or where consideration has been received from others for the same purpose; or (c) to any persons who are expressly invited rather than merely permitted to come upon the premises by the landowner.

Nothing in this section creates a duty of care or ground of liability for injury to person or property.

HISTORY: Added Stats 1963 ch 1759 s 1. Amended Stats 1970 ch 807 s 1; Stats 1971 ch 1028 s 1; Stats
1972 ch 1200 s 1; Stats 1976 ch 1303 s 1; Stats 1978 ch 86 s 1; Stats 1979 ch 150 s 1; Stats 1980 ch 408 s 1;
Stats 1988 ch 129 sec 1.

SUPPLEMENTAL INFORMATION

California Recreational Use Statute
http://www.americanwhitewater.org/resources/repository/California_Recr...
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ADDITIONAL INFORMATION: Text of Code also available at http://caselaw.lp.findlaw.com/cacodes/civ/840-848.html on 11/13/00.

§ 846. An owner of any estate or any other interest in real property, whether possessory or nonpossessory, owes no duty of care to keep the premises safe for entry or use by others for any recreational purpose or to give any warning of hazardous conditions, uses of, structures, or activities on such premises to persons entering for such purpose, except as provided in this section.

A "recreational purpose," as used in this section, includes such activities as fishing, hunting, camping, water sports, hiking, spelunking, sport parachuting, riding, including animal riding, snowmobiling, and all other types of vehicular riding, rock collecting, sightseeing, picnicking, nature study, nature contacting, recreational gardening, gleaning, hang gliding, winter sports, and viewing or enjoying historical, archaeological, scenic, natural, or scientific sites.

An owner of any estate or any other interest in real property, whether possessory or nonpossessory, who gives permission to another for entry or use for the above purpose upon the premises does not thereby (a) extend any assurance that the premises are safe for such purpose, or (b) constitute the person to whom permission has been granted the legal status of an invitee or licensee to whom a duty of care is owed, or (c) assume responsibility for or incur liability for any injury to person or property caused by any act of such person to whom permission has been granted except as provided in this section.

This section does not limit the liability which otherwise exists (a) for willful or malicious failure to guard or warn against a dangerous condition, use, structure or activity; or (b) for injury suffered in any case where permission to enter for the above purpose was granted for a consideration other than the consideration, if any, paid to said landowner by the state, or where consideration has been received from others for the same purpose; or (c) to any persons who are expressly invited rather than merely permitted to come upon the premises by the landowner.
Nothing in this section creates a duty of care or ground of liability for injury to person or property.

§ 846.1. (a) Except as provided in subdivision (c), an owner of any estate or interest in real property, whether possessory or nonpossessory, who gives permission to the public for entry on or use of the real property pursuant to an agreement with a public or nonprofit agency for purposes of recreational trail use, and is a defendant in a civil action brought by, or on behalf of, a person who is allegedly injured or allegedly suffers damages on the real property, may present a claim to the State Board of Control for reasonable attorney's fees incurred in this civil action if any of the following occurs:
(1) The court has dismissed the civil action upon a demurrer or motion for summary judgment made by the owner or upon its own motion for lack of prosecution.
(2) The action was dismissed by the plaintiff without any payment from the owner.
(3) The owner prevails in the civil action.

(b) Except as provided in subdivision (c), a public entity, as defined in Section 831.5 of the Government Code, that gives permission to the public for entry on or use of real property for a recreational purpose, as defined in Section 846, and is a defendant in a civil action brought by, or on behalf of, a person who is alegedly injured or allegedly suffers damages on the real property, may present a claim to the State Board of Control for reasonable attorney's fees incurred in this civil action if any of the following occurs:
(1) The court has dismissed the civil action upon a demurrer or motion for summary judgment made by this public entity or upon its own motion for lack of prosecution.
(2) The action was dismissed by the plaintiff without any payment from the public entity.
(3) The public entity prevails in the civil action.

(c) An owner of any estate or interest in real property, whether possessory or nonpossessory, or a public entity, as defined in Section 831.5 of the Government Code, that gives permission to the public for entry on, or use of, the real property for a recreational purpose, as defined in Section 846, pursuant to an agreement with a public or nonprofit agency, and is a defendant in a civil action brought by, or on behalf of, a person who seeks to restrict, prevent, or delay public use of that property, may present a claim to the State Board of Control for reasonable attorney's fees incurred in the civil action if any of the following occurs:
(1) The court has dismissed the civil action upon a demurrer or motion for summary judgment made by the owner or public entity or upon its own motion for lack of prosecution.
(2) The action was dismissed by the plaintiff without any payment from the owner or public entity.
(3) The owner or public entity prevails in the civil action.

(d) The State Board of Control shall allow the claim if the requirements of this section are met. The claim shall be paid from an appropriation to be made for that purpose. Reasonable attorneys' fees, for purposes of this section, may not exceed an hourly rate greater than the rate charged by the Attorney General at the time the award is made, and may not exceed an aggregate amount of twenty-five thousand dollars ($25,000). This subdivision shall not apply if a public entity has provided for the defense of this civil action pursuant to Section 995 of the Government Code. This subdivision shall also not

apply if an owner or public entity has been provided a legal defense by the state pursuant to any contract or other legal obligation.

(e) The total of claims allowed by the board pursuant to this section shall not exceed two hundred thousand dollars ($200,000) per fiscal year.

§ 846.2. No cause of action shall arise against the owner, tenant, or lessee of land or premises for injuries to any person who has been expressly invited on that land or premises to glean agricultural or farm products for charitable purposes, unless that person's injuries were caused by the gross negligence or willful and wanton misconduct of the owner, tenant, or lessee. The immunity provided by this section does not apply if the owner, tenant, or lessee received any consideration for permitting the gleaning activity.

§ 846.5. (a) The right of entry upon or to real property to investigate and utilize boundary evidence, and to perform surveys, is a right of persons legally authorized to practice land surveying and it shall be the responsibility of the owner or tenant who owns or controls property to provide reasonable access without undue delay. The right of entry is not contingent upon the provision of prior notice to the owner or tenant. However, the owner or tenant shall be notified of the proposed time of entry where practicable.
(b) The requirements of subdivision (a) do not apply to monuments within access-controlled portions of freeways.
(c) When required for a property survey, monuments within a freeway right-of-way shall be referenced to usable points outside the access control line by the agency having jurisdiction over the freeway when requested in writing by the registered civil engineer or licensed land surveyor who is to perform the property survey. The work shall be done within a reasonable time period by the agency in direct cooperation with the engineer or surveyor and at no charge to him.

Appendix III

Forms

Standard forms will be adopted or developed and inserted here.

Trail Inventory Form will note trail features, including:

Appropriate use classification(s)
Dead end, loop, or connecting trails
Length and width of trail
Level of use
Parking access
Support facilities
Proximity to facilities, transportation, etc.
Scenic value; view or destination features
Interpretive features
Biotic community; sensitive habitats
Safety factors, difficulty, usage issues
Hazards, erosion potentials
Fencing, barriers, or need thereof
Handicapped Accessible

Maintenance Schedule and Work Plan

Work Plan / Completion Form

Volunteer Form

Accident Reporting Form