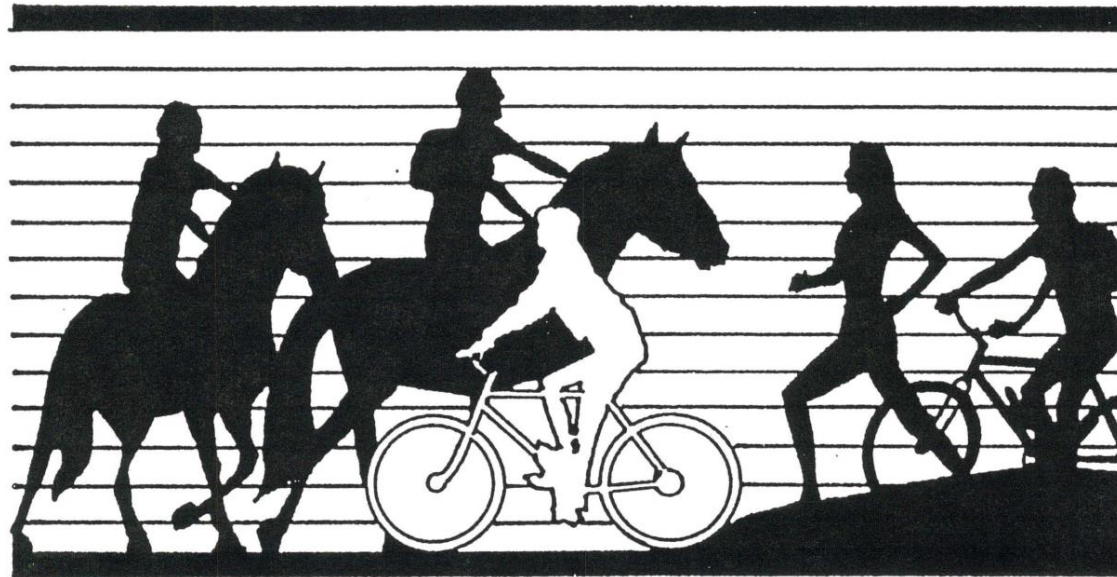




City of Orange

RECREATIONAL TRAILS



MASTER PLAN

FINAL

**City of Orange
RECREATIONAL TRAILS
MASTER PLAN**

PUBLIC HEARING: MARCH 23, 1993

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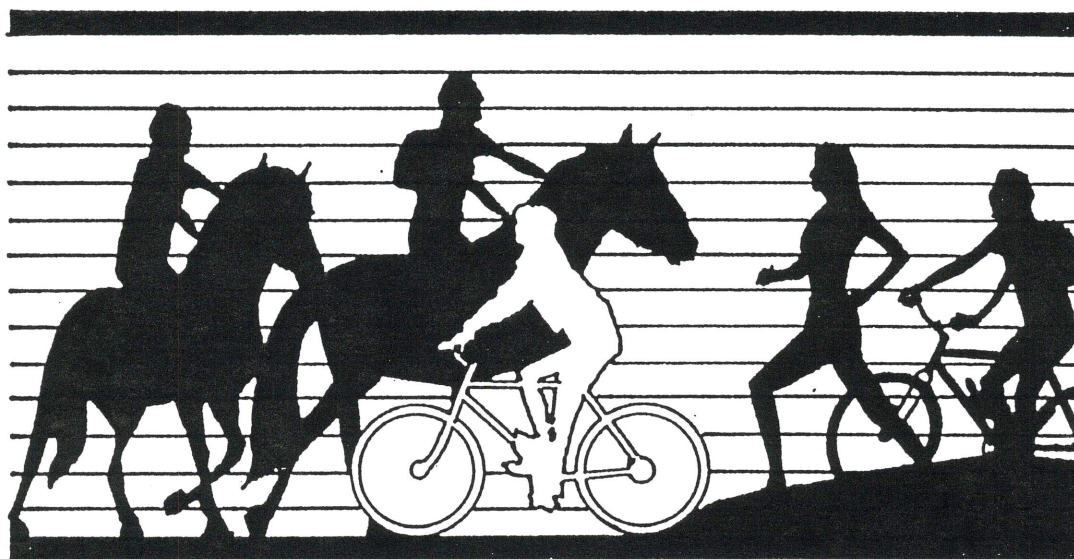


SUMMARY

Summary

The Recreational Trails Master Plan is the culmination of over a year of planning involving indepth field analysis of trail routes and extensive coordination between the consultant design team, city staff and a citizen's advisory committee appointed by the City Council to represent a broad spectrum of recreational perspectives and geographical interest. The complete document contains the following:

- Introduction:** Defines the geographic constraints and opportunities of the planning effort; how the trails master plan relates to the current General Plan; and the nature and extent of public involvement in the process.
- Trails Master Plan:** Issues and goals & objectives are defined followed by a written description of each segment. Handicap access to the trail system is also addressed as well as the interface between the bicycle master plan as delineated in the General Plan. The trails master plan, handicap accessible trails plan and the General Plan bicycle plan were prepared at 1" = 1000' scale. Reductions of these plans are included in the rear of this document, however, the full size original plans are housed at the City of Orange's Community Development Department. In addition to these plans, trail alignments were also plotted on aerial photography at 1" = 100' scale. Because of their size, the aerial are not included in this document but are available for viewing at the Community Development Department along with the field notes (& photographs) of trail segments.
- Standards:** Contains narrative and graphic descriptions of trail features.
- Implementation Plan:** This section delineates methods for acquiring trails, installation responsibility for each trail segment, a phasing plan and costs associated with implementation.
- Management Maintenance Plan:** Issues related to the long term management and maintenance of the trail including access control, handicap usage, and volunteer management are addressed as well as a safety checklist, trail etiquette, maintenance costs and liability issues.
- Appendices:** The appendices contain the agendas and minutes of all advisory committee meetings as well as additional information on liability issues. A glossary and bibliography are also in this section as well as all maps and plans.



INTRODUCTION

Introduction

City of Orange Setting

The City of Orange is located in the heart of Orange County in Southern California. The City is serviced by five major freeways which connect the City to the neighboring counties of Riverside and Los Angeles and to the adjacent cities of Anaheim, Garden Grove, Santa Ana and Tustin. The Newport Freeway (Highway 55) bisects the City with the Garden Grove Freeway (Highway 22), Orange Freeway (Highway 57), Riverside Freeway (Highway 91) and Santa Ana Freeway (Interstate 5) passing to the edges or perimeter of the City. Santiago Creek flows in a generally east-west direction through the heart of the City connecting East Orange to the Santa Ana River which passes to the west of the City.

The City has a large number of neighborhood and community parks containing over 169 acres of parkland. In addition to these, the City of Orange is further enriched by a number of county administered regional parks and open spaces including Santiago Oaks Regional Park, Villa Park Regional Park, Irvine Regional Park, Peters Canyon Regional Park and El Modena Open Space.

General Plan

The City of Orange has experienced tremendous growth over the last 10 years. With this growth came increased pressures for recreational opportunities due to the booming population and because construction on previously undeveloped areas rendered many "open spaces" no longer useable or accessible to the public.

The City's General Plan was updated in 1989 and contains goals, policies and programs to guide development into the next century. In the Open Space and Conservation Element of the General Plan a master plan for trails was begun. This plan identified routes for hiking, bicycling and pedestrian recreation as well as general standards for the system. However, the trails were not fully articulated due to the "general" nature of the document. Therefore, the City recognized a need to take the planning process one step further and decided to formulate a more detailed plan for trails. In August of 1991, The Elliott Group, Landscape Architects and Planners were hired to prepare a comprehensive city-wide multi-purpose trails master plan. With the General Plan as a starting point the process was begun. The following goal set forth by the General Plan in the Open Space and Conservation Element is further developed in this Recreational Trails Master Plan:

"developing and maintaining a system of recreational open space uses to include parks and trails..."

The trails defined in the original general plan were re-analyzed as a first step in the planning process followed by a comprehensive field analysis to discover new trail segments which could fill gaps that existed in the original plan and to expand and enrich the recreational opportunities of the trail system.

The Recreational Trails Master Plan will provide a comprehensive long range planning document that, although will be more detailed than the General Plan, will still be flexible. Trail alignments and standards have been developed based on current information and known future conditions with the idea that as circumstances change, the plan can accommodate changing conditions and still remain effective. For instance, trail alignments on private parcels that have no current development plans have been designated based on existing topography and site conditions. When development occurs on these areas it is assumed that the City will work closely with the developer to adjust the alignment based on the proposed plans in order to meet the needs of the City's recreational users as well as to maintain the viability of the project.

Unique Opportunity

The city of Orange has many unique aspects which enable the development of an exceptional trail system including:

- over 15 miles of existing trails,
- several miles of easements dedicated for trails that are pending implementation,
- a dedicated, well informed and highly organized group of trail activists who are willing to devote their time and economic resources to preserving and enhancing current trails and to developing and maintaining new trail opportunities,
- numerous city and county administered parks and open spaces located throughout the City which provide natural destination points, staging areas and rest areas, and
- Santiago Creek which provides a unique opportunity to link Orange and adjacent communities to the Santa Ana River trail, with ultimate links to the San Bernardino Mountains and to the Ocean.

Public Participation

A citizens' advisory committee was established by the City Council to be an integral part of the planning effort. To insure a broad representation on the committee, a newspaper announcement was run and recreational user groups were contacted to solicit applicants. Applications were taken from those who wished to participate with the selection based on providing representation of the entire community by drawing geographically from all areas of the City of

Orange. In addition, the City Council took care to select representatives from a variety of recreational users, including cyclist, walkers, joggers and equestrians.

From the first advisory committee meeting, held on August 21, 1991, the committee became an important part of the planning team and was involved in all aspects of the plan from the initial goal setting and issues assessment to evaluation of the final document. Meetings were held regularly between the consultants, city staff and the committee to seek their advice and to solicit input including a field trip to discuss issues on site. The agendas and minutes of the advisory committee meetings are attached in Appendix A.

As previously mentioned, the City of Orange is unique and highly enriched by the dedication of the trails activists in the community. The continued support of these concerned citizens will be crucial to insuring the full implementation of the trail system. Although implementation of the full plan will take many years, its success will be determined by the level of participation and commitment carried by the citizenry.

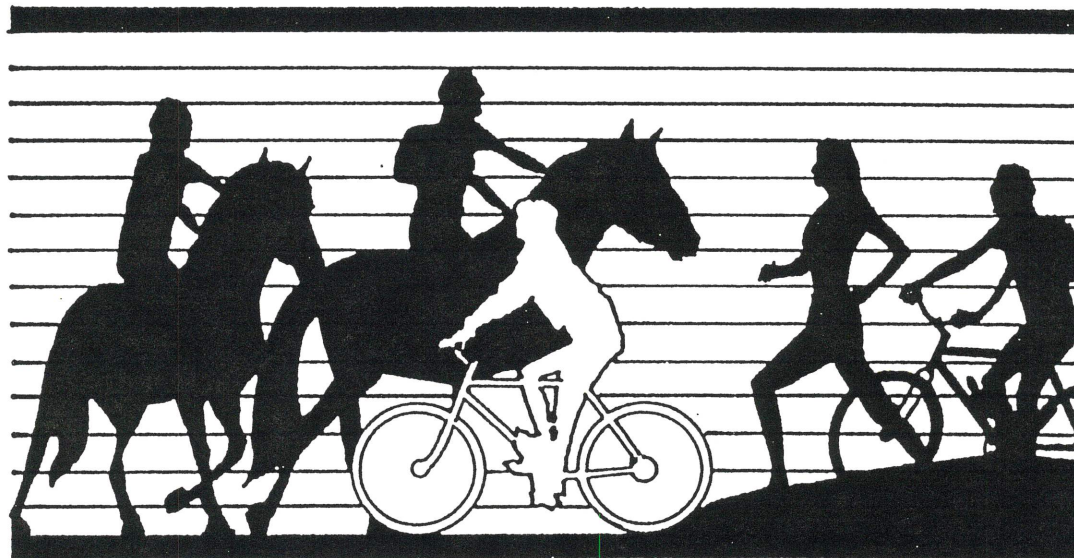
Bicycle Master Plan

As part of the Circulation Element of the General Plan, a bikeway master plan was prepared. In this plan efforts were made to provide bikeways separate from streets to protect cyclist from "fumes and fast moving vehicles." Two classes of routes were established:

Class I: Separated path from the street.

Class II: On-road routes. Path is defined by a painted stripe within the street corridor.

The focus of the bicycle master plan was on recreationist and commuters who use "street bikes" (bicycles which have narrow-smooth tires versus trail bicycles which have wider tires). In contrast, the multi-purpose trails master plan contained in this document was designed for a broader spectrum of users, including trail bicyclist, hikers, joggers and equestrians. It is foreseen that the users of the multi-purpose trail system, with the exception of equestrians, will be able to utilize the existing bicycle master plan paths. Therefore, this plan was designed to interface wherever possible with the routes designated in the bicycle master plan. However, due to the "soft surface" specified for the trail tread, the trails designated in this plan will not be suitable for street bicycles. A plan that shows both street bicycle trails and the multi-purpose trails overlaid is provided at the rear of this document in the Appendices.



TRAILS MASTER PLAN

Recreational Trails Master Plan

Summary:

The following section begins with the issues that were identified at the beginning of the design process for the trails master plan. The list was formulated by the combined efforts of the entire design team including the consultant, city staff and trails advisory committee at the first two advisory committee meetings. Following the issues list is a statement of the goals & objectives. Like the issues list, the goals & objectives were also derived by the entire design team at a series of meetings.

Written descriptions of the trail segments and staging areas are contained in this section and a reduction of the trails master plan is provided in the rear of this document (Appendix E). The original plan was prepared at 1" = 1000' and is available for review at the City of Orange Community Development Department. The trails were also plotted on 1" = 100' aerial photography maps, which are not included in this document due to their size, but can also be reviewed at the Community Development Department. Also in Appendix E are key maps that reference the trail numbers assigned to each trail segment and a key that cross references the aerial photography maps.

The field notes of the planning team are compiled in a trail log, that was prepared for each trail segment, which contains photographs and written narratives. This log is also available for review at the City of Orange Community Development Department.

In compliance with the Americans with Disabilities Act of 1990 (ADA), the primary loop in the trails master plan will be accessible to individuals with disabilities. The gradient on these sections will not exceed 8.33% slope and 60" x 60" pads will be provided every 30' where grades are between 5% and 8.33%. The trail surfacing will be compacted native soil, as are the other trails within the system. However, maintenance in these segments will be more intensive since it will be necessary to groom the trail with greater frequency than those not designated for handicap accessibility, to insure a smooth level surface. A plan showing the "accessible route" is provided in Appendix E.

Issues Analysis:

At the Trails Advisory Committee meetings on September 12 and November 21, 1991 the planning team defined the following issues relating to the master planning for trails in the City of Orange:

1. Interferences to the trail:

- Encroachments on previously designated trails (i.e. residential walls/structures & public utilities).
- Irrigation runoff causing erosion.
- Dangerous conditions on some existing trail segments.
- Developers not adequately informed of existence of trail segments on their property, and therefore do not plan for them in their project.

2. Trail users:

- Restriction of the trail system to non-motorized use exclusively. Patrol and emergency vehicles will be allowed and provided for.
- Possible conflicts between recreational trail users. Explore the possibility of some trail segments as single use.

3. Conflicts between trail and adjacent landowners:

- Investigate the possibility of increased conflicts caused by adding trails or increasing usage.

4. Ordinances:

- Establishment of a City Ordinance to restrict undesirable conduct on the trail.
- Establishment of clear and concise authority to condition trails through the development process.

5. Maintenance/Management issues:

- Minimizing maintenance costs.
- Responsibility for maintenance on the trail.
- Sources of maintenance funds.
- Is there a need for a monitoring and update plan?

6. Safety/Liability:

- Safe crossing of vehicular routes.
 - Insure "waiting areas" are outside of curb line.
 - Place signal crossing buttons at a level where they can be utilized while on horseback.
- Explore ways to reduce exposure to liability.

7. Linkages to adjacent jurisdictions:

- Insure appropriate connections to adjacent cities, county areas and to private developments where trails occur (i.e. Irvine Company).
- Insure that trails standards are compatible with adjacent properties.

8. Trail standards:

- Maintain the flavor of each unique neighborhood yet design standards that will present a cohesive trail system.
- Design trails standards for single use as well as multi-use.
- Establish trails standards that consider full development of the street right of way.
- Consider the option of eliminating sidewalks, where space is limited, to accommodate trails.
- What facilities should accompany the trails system (rest stops, staging areas, etc.)?
- Should handicapped access be provided? If so where?

Goals & Objectives:

The overall purpose of the Multi-purpose Recreational Trails Master Plan is to provide a long range plan to guide the City in enhancing the recreational opportunities for the community. At the August 21 and September 12, 1991 Advisory Committee meetings, the planning team formulated the following goals and objectives. These were used to direct and focus the planning process and will be carried forward into the General Plan.

The Recreational Trails Master Plan:

1. Is aimed at a variety of users and shall be designated as a multipurpose, soft surfaced trail, providing recreational opportunities for equestrians, hikers and bicyclists while restricting motorized vehicles from the trail.
2. Will provide for a loop trail system with varying loop lengths within the system.
3. Will provide for diversity in trail experiences including variety in difficulty, terrain, environment and the exploration of historical and interpretive opportunities.
4. Will link recreational opportunities within the City of Orange and County providing for connections between parks, open spaces and trail systems in adjoining jurisdictions.
5. Will be designed with safety as a paramount concern and will:
 - minimize vehicular/trail crossings,
 - maximize the separation between roads and trails (with planting and distance),
 - maximize visibility and warning signage where interface between vehicles and the trail does occur, and
 - provide access for patrol, emergency vehicles and maintenance.
6. Will address issues of regular upkeep and patrol to insure maximum trail safety and low cost maintenance.
7. Will be signed with a system of easily recognized markers which will allow users to clearly recognize the trail system.

8. Will, whenever possible, be designated in locations that will provide the community with trails yet minimize the financial burden to the City of Orange through:
 - a phasing plan,
 - designations on private parcels that will require the developer to implement the trail, and
 - by locating the trails along existing paths and unimproved roads.
9. Will provide for flexibility in trail standards to maintain compatibility with adjacent land uses.
10. Will minimize impacts to adjacent landowners from trespass, damage and property loss associated with the trail.
11. Will provide standards that will be designed to be compatible with adjacent jurisdictions.
12. Will have environmental sensitivity as a foremost concern and be designed to minimize the impact to the environment.
13. Will provide for handicap access whenever possible.
14. Will be designed to reduce exposure to liability to the City of Orange and adjacent landowners.
15. Will provide for connections to the City of Orange's Class I and II bicycle trails, whenever possible, to facilitate bicycle commuting opportunities.

Description of Trail Segments

Trail segments have been assigned numbers that are described in the following list and are referenced on a map in the rear of the document. Type A trails are designated for use by equestrians, trail bicyclists and hikers. Type B trails are designated for trail bicyclists and hikers.

Trail Number	Trail Type	Description
1	A	MWD easement between the Edison Easement (on north) and trails conditioned on the west side of Loma in tract 13125 (on south)
2	A	Connection across Edison easement between trails conditioned in tract 13125 and the powerline road on the easement (on north)
3	A	Edison easement - Anaheim city limits at Nohl Ranch Road to east of Loma extension.
3A	B	Edison easement - East of Loma extension to the Santa Ana River.
4	A	Conditioned in tract 13125 on west side of Loma extension
5	A	Northwest side of Loma (in street R.O.W.) connecting trail conditioned in tract 13125 (on north) and the trail proposed by the city of Villa Park on the West side of Loma
6	A	North side of Serrano (in street R.O.W.) between Loma (on west) and the existing underpass on Serrano
7	A	Conditioned in Tract 13125 following MWD R.O.W. north of Serrano then running on the southeast side of the Edison substation until connecting to trail #2.
8	A	Existing trail south of Serrano between the tunnel and the end of Serrano street improvements.
9	A	Connection between trail #8 on Serrano and trail #29 south of Mabury
10	A	Santiago Creek trail between Mabury and the Villa Park Dam area

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- 11 A Conditioned in tract 14359 connecting the Edison easement (on north) to the proposed extension of Serrano then proceeding southeast to connect to trail #14 in the Santiago Oaks Regional Park
- 12 A Connection between trail conditioned in tract 14359 (trail #11) on south and the Edison easement (on north)
- 13 A Existing loop trail northeast of Santiago Creek (trail #10) in the Santiago Oaks Regional Park
- 14 A Existing connection between loop trail #13 and trail #17
- 15 A South of Serrano, conditioned in tract 14359 connecting existing trail on Serrano (trail #8) and trail #11 also conditioned in the same tract
- 16 A Connection between Anaheim Hills trail (trail #20) on northeast and trail #19 in Santiago Oaks Park
- 17 A Existing trail in Santiago Oaks Regional Park connecting the Creek trail (trail #10) and trail #19.
- 18 A North of Serrano near Nohl Ranch Road connecting to Edison easement trail (trail #3)
- 19 A Connection in Santiago Oaks Regional Park between Wier Canyon trail (trail #42), trails #16, #14, and #17.
- 20 A Anaheim Hills trail
- 21 B North side of Santiago Creek in Villa Park
- 22 A Northern diversion basin trail
- 23 B North side of Santiago Creek, west of Loma to Villa Park city limits (on east)
- 24 A Existing trail on west side of Loma between Santiago Creek trail (trail #23) on south and Villa Park city limits (on north)

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- 25 A Existing trail on east side of Loma between Santiago Creek (on south) and Serrano
- 26 A Santiago Creek trail east of Loma to the existing trail section along the creek south of Mabury (trail #29)
- 27 A East of Loma, south of Santiago Creek, north of Santiago Canyon Road in designated open space
- 28 A North of Santiago Canyon Road, east of Loma in designated open space.
- 29 A Existing trail south of Mabury along Santiago Creek
- 30 A North of Santiago Canyon Road, between open space adjacent to Loma (on west) and conditioned trail in tract 13833.
- 30A A North of Santiago Canyon Road near Orange Park Blvd., an area approximately 160' in front of an existing residence.
- 31 A Conditioned trail in tract 14322 south of Santiago Canyon Road and east of Stone Canyon Street connecting to the trail at end of Jamestown
- 32 A Connection between Santiago Canyon Road and Santiago Creek trail, north of Santiago Canyon Road near the intersection of Orange Park Blvd.
- 33 A North of Santiago Canyon Road, west of Windes in tract 13833
- 34 A Existing trail west of Orange Park Blvd, south of Santiago Canyon Road and north of Meads. The trail also travels south of Santiago Canyon Road, west of Orange Park and east of tract 14322.
- 34B A Existing trail on the east side of Orange Park Blvd., south of Meads and north of Saddleback.
- 35 A Feeder trails including: a) east of the terminus of Oaklane Drive, north of stables (east-west trail); b) connection between east-west trail and Santiago Canyon Road; c) north-south connection on the east & west sides of Windes, north of Santiago Canyon Road to the stables

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- 36 A Existing trail north of Santiago Canyon Road, east of Windes to the curve on Santiago Canyon Road
- 37 A West of Meads, south of Santiago Canyon Road, north of Randall
- 38 A South of Randall, east of Meads, west of Kennymead
- 39 A Curve of Santiago Canyon Road between trail #36 and Lolita
- 40 A Lolita between Santiago Canyon Road and the Villa Park dam
- 41 A Connection between Santiago Creek trail #10 and Lolita trail #40 up the face of the dam
- 42 A Wier Canyon trail, between the proposed Wier Canyon Regional Park and Irvine Regional Park
- 44 A South of trail #31 near Jamestown to connection with trail #45 within tracts 8964, 8809 and 9608
- 45 A East side of Crawford Canyon Road (proposed extension) connecting trail #44 to proposed tunnel (trail #46) under Crawford Canyon Road conditioned in tract 13529
- 46 A Tunnel proposed as part of Crawford Canyon Street improvements in tract 13529
- 47 A East of Crawford Canyon, south of tunnel and terminating with the trail conditioned in tract 13913
- 48 A North of Meads, east of Orange Park Blvd. connecting the existing trail on the north and east sides of Meads
- 49 A West side of Orange Park Blvd, south of Meads, north of Chapman
- 50 A Conditioned in tract 13913 connecting west end of Daniel and trail #47
- 51 A County designated trail into Villa Park Regional Park connecting eastern most (north-south) diversion basin trail (trail # 59) with Wier Canyon Trail (trail #42)

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- 52 A Existing connector between Orange Park Blvd.(on west) and Santiago Canyon Road (on east), south of Amapola
- 53 A Existing trails within Pheasant Run community
- 54 A Existing trail on north and west side of Meads, south of Randall
- 55 A Rattlesnake Canyon trail, north of Amapola, west of Santiago Canyon Road, east of Ridgeline and east of Kennymead.
- 56 A Connection between Amapola(on north) and trail #52 (Most segments are existing).
- 57 A West of Santiago Canyon Road, south of Amapola, north of Newport
- 58 A Existing connector between the intersection at Newport & Santiago Canyon Road and the south end of the diversion basin
- 59 A Existing county designated trail east of the Cemetery and Santiago Canyon Road, commencing at Villa Park Dam through the diversion basin and terminating at Villa Park Regional Park on the south
- 60 B Connecting the intersection of Walnut at Rancho Santiago Blvd. to Santiago Middle School, then around the west and south perimeters of the playfield to the boundary of the El Modena Open Space connecting with the proposed county trail
- 61 A County loop trail in El Modena Open Space, exact location to be determined by the county
- 62 A Utilizing the street on Daniel connecting Orange Park Blvd.(on east) and trail conditioned in tract 13913 (trail #50)
- 63 A East-west connection between Orange Park Blvd.(trail #64) and north of Chapman trail (trail #68)
- 64 A East of Orange Park Blvd., south of trail #63 and north of Chapman

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- 65 A South of Chapman, east of Orange Park and west of Equestrian
- 66 A East side of Equestrian between trail #67 and Chapman(on north)
- 67 A East of Equestrian in easement behind residences, running north-south and connecting to Equestrian (east-west)
- 68 A North side of Chapman between Orange Park Blvd(on west) and Newport(on east)
- 69 A Southwest of Chandler Ranch, southeast of stables and northwest of trail #71
- 70 A Northwest of stables on Chandler Ranch Road
- 71 A Loop trail around Saddelhorn between Chandler Ranch Road and connecting to Canyon View at Outrider
- 72 A Connection between Outrider and Canyon View (on south) to stables at Chandler Ranch Road on the perimeter of Goldenspur cul de sac
- 73 A North side of Amapola between Ridgeline (on west) and Santiago Canyon Road
- 74 A Connection between trail #71 and Newport across commercial property
- 75 A West side of Newport, north of city limits, southwest of Santiago Canyon Road
- 77 A South side of Canyon View, east of Newport and west of Skylark
- 78 A West side of Jamboree, north of Canyon View and south of Villa Park Regional Park
- 79 A Rockinghorse Ridge south of Skylark to easement connecting to Canyon View
- 80 A South of Skylark between Newport (on west) and Canyon View
- 81 A South of Canyon View between Skylark (on west) and Jamboree (on east)

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- 82 A South of Peters Canyon Reservoir between Skylark (on north/west) and Jamboree (on east)
- 83 A East of Jamboree, south of Canyon View, north of trail #87
- 84 A West of Jamboree, south of Canyon View to the city limits (Tustin)
- 85 A North of Canyon View , east of Jamboree to Irvine Regional Park (on north)
- 86 A Connection of trails #85 and #51 in Irvine regional Park
- 88 B North and south sides of Santiago Canyon Road west of Hewes connecting to the northwest side of the Creek in Villa Park (trail #21)
- 89 B Abandoned railroad easement between Villa Park City limits (on east) and the Edison easement
- 90 B West side of Hewes, south of Santiago Canyon Road and north of Bond
- 91 B North of Bond between Prospect (on west) and Hewes (on east)
- 92 B Prospect between Bond (on north) and abandoned rail line (on south)
- 93 B Northwest side of Creek between Walnut and Santiago Canyon Road
- 94 B Santiago Creek trail on southeast side, south of Walnut to the City limits (Santa Ana)
- 95 B Abandoned rail line between Collins (north) and Santiago Creek trail (trail # 94)
- 96 B Palmyra surface street connection between Yorba Park at the Santiago Creek to the abandoned railway easement west of Craig.
- 96A B Alternate route, from Palmyra following abandoned railroad easement west of Craig to Prospect
- 97 B Abandoned railway easement between Palmyra (north) to the city limits (Tustin)

Staging Areas and Rest Stops

The following is a list of amenities which should be incorporated into the proposed staging areas and rest stops:

Staging Areas:

East side of Loma at Santiago Creek:

Install new:

- Area lighting (for security)
- Identification and directional signs
- Drinking fountains (1 minimum)
- Picnic tables (4 minimum)
- Benches (4 minimum)
- Parking (15-30 vehicles including space for trailers)
- Restroom
- Landscaping (for shade and for aesthetics)
- Trash receptacles
- Pay phone
- Bicycle racks
- Corral
- Water trough

Hart Park:

Use existing:

- Area lighting (for security)
- Drinking fountains
- Picnic tables
- Benches (4 minimum)
- Parking
- Restroom
- Landscaping
- Trash receptacles
- Pay phone
- Bicycle racks

Install new:

- Identification and directional signs

Yorba Park:

Use existing:

- Area lighting (for security)
- Drinking fountains
- Picnic tables
- Benches
- Parking
- Restroom
- Landscaping
- Trash receptacles
- Bicycle racks

Install new:

- Pay phone
- Identification and directional signs

Rest Stops:

Serrano at Loma

Install new:

- Area lighting (for security)
- Identification and directional signs
- Drinking fountains (1 minimum)
- Picnic tables (2 minimum)
- Benches (2 minimum)
- Landscaping (for shade and for aesthetics)
- Trash receptacles (1 minimum)
- Bicycle racks (minimum 6)
- Hitching post & water trough

Walnut

This rest stop has already been planned and will include the following:

- Area lighting (for security)
- Identification and directional signs
- Drinking fountains (1 minimum)
- Picnic tables (2 minimum)
- Landscaping (for shade and for aesthetics)
- Trash receptacles (1 minimum)
- Bicycle racks (minimum 6)

Amapola & Ridgeline

Install new:

- Area lighting (for security)
- Identification and directional signs
- Drinking fountains (1 minimum)
- Picnic tables (2 minimum)
- Benches (2 minimum)
- Landscaping (for shade and for aesthetics)
- Trash receptacles (1 minimum)
- Bicycle racks (minimum 6)
- Hitching post
- Water trough



STANDARDS

Trail Standards:

Introduction:

Trails included in the Master Plan shall be developed in accordance with the following criteria. In special locations where physical constraints preclude the practical implementation of a trail under the following criteria, the City of Orange reserves the right to modify the standards in order to preserve the continuity of the trail. Deviations from the trail standards are subject to the approval of the City of Orange Community Services Director or his designee. These modifications will be made only after a determination is made that public safety has not been jeopardized. Although the plan endeavors to provide standards for all conceivable occurrences, it is impossible to ensure that every detail will be addressed. Therefore, specific site conditions may dictate the redesign or refinement of standards to meet unusual field circumstances.

The purpose of the Recreational Trail Standards is to:

- Ensure trail safety by:
 - minimizing trail hazards, including natural & vehicular interface;
 - minimizing trail deterioration; and,
 - providing for adequate surveillance to reduce crime and vandalism.
- Protect the rights of adjacent landowners, thus making the trail a sought after amenity.
- Minimize maintenance costs.
- Provide for a consistent trail identity that maintains the unique flavor of each neighborhood yet presents a cohesive trail system.
- Produce minimum disturbance to the natural environment.
- Maximize the enjoyment of users through a diversity of experiences.
- Reduce liability exposure to the City of Orange.
- Reduce user conflicts by providing separate trails for different recreation users where possible. Where space constraints dictate, multi-use trails are provided.
- Provide for staging and rest areas.
- Provide for handicapped accessibility on some trail segments.

Trail Standards:

TRAIL TREAD WIDTH: 10 feet minimum
Special circumstances 6 feet with 3 feet x 15 feet turnouts every 150 feet (per detail 1).

EASEMENT WIDTH: 18 feet minimum for single multi-purpose trail
Special circumstances 10 feet

32 feet for dual trails is desirable where feasible

These easements may occur within, partially within, or entirely outside of dedicated public rights-of-way. See details 2 - 5 for cross sections.

SETBACK: The trail tread is to be set back from:

- the street curb a minimum of 6 feet;
- the top of any slopes exceeding 3:1 a minimum of 2 feet;
- other bikeways/sidewalks a minimum of 4 feet (per detail 6); and,
- retaining walls/fences above 4 feet in height a minimum of 2 feet.

GRADE: The majority of trail segments shall be 12% or less. However, slopes above this for short distances will be allowed using the following requirements:

- Under no circumstances should any slope exceed 20%.
- 15% to 20% slopes should be no longer than 250 feet with 10 foot long breaks in grade which do not exceed 5%.
- 12% to less than 15% slopes should be no longer than 500 feet with 10 foot long breaks in grade which do not exceed 5%.
- To decrease grade, utilize terrace steps (per detail 7). Terrace steps should not be utilized on trails which are designated as handicap accessible.
- The primary loop of the trail system has been designated as handicap accessible, with the following standards applying:
 - 8.33% maximum slope.
 - A pad 60 inches x 60 inches must be provided for rest every 30 feet where grades are between 5% and 8.33%.

- CROSS GRADE:** Should not exceed 2%. Low grades help prevent drainage problems; steep grades allow the water to run faster, building up erosive force. See detail 8, 9 & 10 for typical cross-sections and drainage requirements.
- GRADING:** Hillside trails should be benched into native material and should not be constructed on sliver fill slopes. Trails proposed to be constructed on fill slopes will be allowed only with the recommendation of a licensed geotechnical engineer. See detail 11 for simple retaining wall.
- Drainage and grading design plans should be submitted to the City by a licensed civil engineer or landscape architect.
- SIGHT LINES & CURVATURE** The speed for trail travel should not exceed 10 miles per hour. With this assumption, sight distance should be no less than 50' and curves should have a minimum radius of 15'.
- CULVERTS:** Where the trail crosses a stream, whether permanent or intermittent, a culvert may be needed. It is very important to prevent erosion at the outfall end of the culvert by providing rip-rap or other hard surface for the water to hit first. If this is not provided, the water leaving the culvert will erode the surface below it, and eventually fill around the downslope end of the culvert. Avoid causing off-trail drainage problems, such as erosion or siltation, by careful culvert placement.
- For small drainages, culvert should have a 12 inch minimum diameter for ease of cleaning. They should have 12 inch minimum cover and be sloped approximately 2%. The size, slope and cover of culverts should be calculated using standard engineering formulas. In general the trail tread above the culvert should be a minimum 12 inch deep compacted native soil or decomposed granite. Soil should be protected with rip-rap from concentrated flows, particularly at culvert outlets. Headwalls and outlets should be protected and concealed with boulders where possible.
- VERTICAL CLEARANCE:** 12 feet minimum beneath structures or tree limbs.

TRAIL TREAD: Trail tread is to be compacted native soil or decomposed granite as determined below. Verify soil expansiveness with a soil test performed by a certified laboratory approved by the City of Orange. A soil report with recommendations should be provided by a soils engineer as approved by the City.

Non-expansive Soil: Scarify tread areas to a depth of 6 inches removing rocks, clods and all undesirable materials. Fine grade and compact native soil to a 90% relative compaction as determined by A.S.T.M.-1557-78.

Expansive Soil: Where expansive soils exist, as determined by using definitions and the expansion index as provided in the U.B.C., follow recommendations as provided in the soils report to provide a uniform fine graded soil base. Remove all rocks, clods and undesirable materials from the exposed soil base. Evenly spread 3-1/2 inches (minimum) of decomposed granite (crushed or decomposed granite with maximum 1/4 inch diameter particles) contained by a 2 inch x 4 inch redwood header on each side of the trail tread.

WEED CONTROL: As weeds appear, apply a systemic herbicide combined with a spray pattern dye indicator. There must be strict supervision of the applicator(s) to ensure that application is confined only to the trail tread. Herbicides should be applied per State and N.P.D.E.S. (National Pollution Discharge Elimination System) standards. Herbicides shall be applied in strict accordance with Cal-EPA regulations and California Department of Food and Agriculture code.

WATER BARS: If minor rivulets appear, a water bar should be installed (per detail 12) to decrease the chances of more serious erosion.

Effective water bars minimize the speed, volume and distance travelled by water down a trail. The actual number and spacing of water bars depends on the steepness of slope, the amount of water entering a trail, the construction of the tread (hillsides or steps), and the availability of places to divert water. Generally, the greater the slope and the more water channeled by a trail, the greater the need for water bars. Placement should be near the top of the slope to catch water before it gains momentum.

VEGETATION:

Vegetation adjacent to the trail tread should be preserved as much as possible to protect the aesthetic quality of the trail. Vegetation should be cleared to a height of 12 feet and a width of 10 feet for a riding trail (per detail 13). Pruning along trails should be selective. Trail relocation should occur where trees of 4 inches in diameter or greater would be in the path of the planned trail. Stumps may be treated to prevent sprouting. Dead and dying limbs and snags which may fall on the trail should be removed. Groundcover plants and low shrubs should not be cleared except from the actual tread. Where a trail is on a side slope, the vegetation on the uphill side will be more invasive and should be cut back more severely than vegetation on the downhill side.

FENCING:

Trail fencing should be constructed of lodge poles (per detail 14). Fences shall be used:

- in areas where side slopes exceed 3:1;
- on switchbacks in order to prevent short-cutting;
- on the trail side of retaining walls that exceed 6" in height;
- along flood control canals or other hazards;
- where the trail is constructed less than 10 feet from the street curb face;
- in residential areas where the trail passes to the front of residences; and,
- at street intersections to delineate the trail entrance. The entry fence will consist of a section on either side of the trail tread of two rail segments long (per detail 16).

SIGNAGE:

Trail markers should be installed every 300 feet unless the trail is defined by the designated trail fence. Where the fence adjoins the trail, signage should occur only at all street and trail intersections and at trail heads. Trail markers should have symbol decals affixed to both sides in the same position. Signage should alternate from one side of the trail to the other and signs should be installed clear of the trail tread.

Trail signs should include the following (per detail 18).

- "City of Orange Recreational Trail",
- Trail identification number,
- Difficulty range (see difficulty standards),
- Allowed uses.

Appropriate warning signs should be installed to detail hazards, clearance requirements, approaching intersections, the need to stop or yield, and staging & rest areas (per detail 19). Street signage warning motorists of trail crossings should be located in advance of trail crossings. Signs should meet City, County and State standards. See detail 16 for location.

BARRIERS:

A trail which is used by equestrians and cyclists can be made difficult to motorcyclists by creating a barrier at the entrances. The barrier is to consist of a 2 1/2" lodgepole rail set 1' - 3" above the ground (at the same height as the entry fence bottom rail) and connected to the entry fence (per detail 16). This pole should be painted with a highly visible reflective phosphorescent permanent paint which will enable trail users to see the barrier at night. The paint must be regularly maintained to insure maximum visibility. These are difficult to cross with a motorcycle, but may be stepped over by hikers and riders. Install these barriers where motorcyclist use will be a problem.

Where segments of a trail are designated for handicapped usage, entrances to the trail should utilize detail 20. These segments should be free of fallen logs and debris, and should follow the state and federal standards delineated for handicap access.

UNDERPASSES:

Underpasses or culverts used for trail undercrossings should conform to the following standards:

- Height: 12 feet Minimum
- Width: 12 feet Minimum

In underpasses 50 feet or longer, illumination should be installed in the passage to provide a minimum of one uniform foot candle. The specific designs for underpasses should meet the individual situation and should be designed by a registered engineer and submitted to the City for review and approval.

**WET STREAM
CROSSINGS:**

In some situations, wet crossings (or fords) are preferred to bridges or culverts where the velocity and depth of the water is acceptable during the normal season. The use of wet crossings eliminates expensive construction and maintenance costs associated with bridges (per detail 21).

Immediately after rains, it will be imperative that the City inspect the wet crossings on Santiago Creek to determine if closure of the crossings are necessary and to conspicuously post the closure if warranted until the crossings are determined to be again safe.

**LOW LYING
AREAS:**

Where wet areas exist that are not feasible to drain, utilize turnpike construction(detail 22). Turnpike technique involves a raised tread bound by treated log sides bordered by a trench on each side of the tread. This will enable the trail tread to be raised to a level above the water level. In unusually wet areas, the turnpike construction will prove to be unsatisfactory. Puncheon construction should therefore be used (per detail 23).

Puncheon consists of a deck, or flooring, approximately 6 feet wide using treated planks or landscape timbers laid on stringers. The stringers should be set on mud sills and should generally be placed at each edge of the widened trail at about 3 foot centers. The mud sills should be set at right angles to the trail at 6 foot to 8 foot intervals. Proper subdrainage should be provided under the stringers and mud sills. The decking should then be securely spiked to the stringers. Cover the deck with a layer of dirt to cushion the traffic and save wear on the deck planks caused by shod horses.

The specific designs for turnpikes and puncheons should meet the individual situation and should be designed by a registered engineer and submitted to the City for review and approval.

**OVERPASSES:
& BRIDGES**

Overpasses should conform to the following standards:

- Height: 12 feet minimum
- Width: 12 feet minimum
- Bridge and ramp slopes: 8% maximum
- Surface or tread: Non-skid or non-slip surface such as wood, textured concrete or asphalt.
- Rails & Screens: Fully enclose with chain link and provide visual screens to prohibit horses from being able to see below. Install protective side railing, 6 feet minimum. See detail 24.

Overpasses shall be designed by a licensed structural engineer and will be subject to the review and approval of the City.

**INTERSECTION
DESIGN:**

The design of intersections where vehicles and the trail interface, shall require that both the motorist and trail user are informed of the potential conflicts. "Roadway Intersection Ahead" signs shall be posted on the standard sign post to inform trail users that they are approaching a roadway intersection. All crossings at grade shall be striped and signed as shown in detail 16. Where feasible, slip-resistant paving should be utilized to provide a non-skid surface. This slip-resistant surface shall be subject to the review and approval of the City.

Push button activated crossing signals should be installed at all signalized trail crossings (per detail 25). Those for equestrians should be installed only where trails for equestrian use are designated with the activation button located six feet above the base. The equestrian buttons should be located a minimum of 12 feet behind the cross walk stripping, to allow for a safe waiting area (per detail 16). Trail signage will be installed advising trail users to wait at the demand button until the signal indicates safe crossing.

At intersections where trails cross streets, the City will review on a case by case basis, any special circumstances in regard to right turn on red which may represent a potential hazard.

STAGING AREAS:

Staging areas should provide a clearly perceptible, safe means to park a vehicle and enter the trails system. Roadway access is required for trail users and for maintenance vehicles. Surfacing with well-drained, non-cohesive soils is desirable, where feasible.

Security should be provided so that trail users feel that both their car and themselves will be safe. This should include offstreet parking, lighting, fencing and trail observation. Facilities should be open during daylight hours only and should be closed by gate at night to eliminate loitering and reduce vandalism and nuisance factors.

The design of staging areas will be required to go through the City Design Review Board process. Landscaping shall conform with the City Landscape Specifications. Staging areas may vary in size depending on location, physical constraints and need. However, for the purposes of this plan, staging areas are defined as:

Large - can accommodate 30 vehicles (including trailers)

Small - can accommodate 6 vehicles (including trailers)

Large staging areas should be a minimum of 2 acres and have the following (per detail 26):

- Identification and directional signs.
 - Entry and exit to staging area,
 - Traffic flow,
 - Trails head sign with maps, trail locations and general information including rules and regulations and trail etiquette (per detail 17),
 - Signage should be submitted to the City for review and approval.
- Water fountain for riders and hikers
- Picnic Tables
- Benches
- Parking
- Restrooms
- Shade
- Trash Receptacles
- Pay phone
- Bicycle racks

Where equestrian use is anticipated, additional facilities should include:

- Marked parking stalls 40 feet long, (adequate for a car and horse trailer) and laid out so that straight ahead entrance and exit is possible.
- Water trough for horses
- Lodge pole fenced corrals (per fence detail) containing hitching posts. Size of corral will be determined by finalized size of staging area. Plans should be submitted for review and approval by the City.

Small staging areas should be a minimum of .50 acres and have the following:

- Identification and directional signs (See large staging area.)
- Water fountain for riders and hikers
- Restrooms where feasible
- Benches
- Bicycle racks
- Shade
- Trash Receptacles

Where equestrian use is anticipated, the following additional facilities should be included:

- Marked parking stalls 40 feet long, (adequate for a car and horse trailer) and laid out so that straight ahead entrance and exit is possible.
- Hitching Posts
- Water trough for horses.

REST AREAS:

Rest areas are smaller facilities which accommodate fewer people than staging areas and do not have vehicle parking. They should be located in existing parks when possible. Road access for security and maintenance is required.

Facilities will include the following:

- Identification signage
- Water fountain for riders and hikers
- Picnic tables
- Benches
- Restrooms where feasible
- Shade
- Trash receptacles
- Bicycle racks

Equestrian oriented trail rest stops should also include the following:

- Hitching posts
- Water trough for horses

TRAIL PLANTING:

Shrubs shall be 5 gallon minimum and should be selected to reach a maximum height of 3-1/2 feet at maturity. Plantings installed in the parkway must provide for vehicular sight distances at intersections, and driveways. Where a fence is not provided, a non-broken plant barrier should be installed in parkway areas between vehicular traffic & the trail to prevent trail users from leaving the trail. In areas where a parkway planting is specified, vines, shrub and tree planting must be of a non-toxic selection to horses.

**TRAIL DIFFICULTY
STANDARDS**

The following standards should be used in determining the degree of difficulty a trail user will encounter on any given trail:

■ **NOT DIFFICULT**

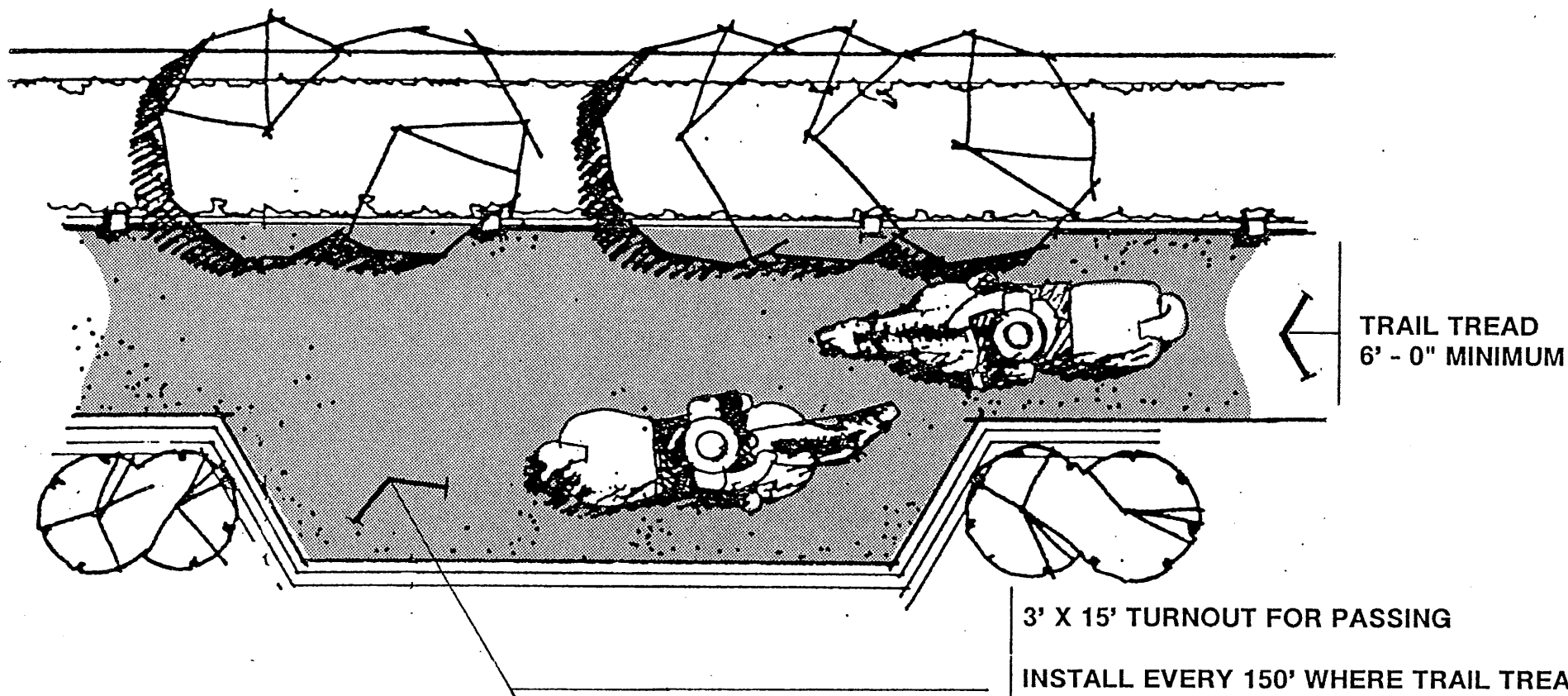
- Majority of the trail is on a 0% - 8% slope. No slopes exceed 10%.
- Trail is well marked, maintained, cleared, and graded.
- Frequent access points, so that there is a possibility of any length of ride.
- Great for leisure hikes and would present no difficulty for equestrians or bikers.

■ **MODERATE**

- Majority of the trail is on an 8% - 12% slope. No slopes exceed 15%.
- Less clearance and more climbs.
- Less access points.
- Better for the intermediate rider or biker or experienced hiker.

■ **DIFFICULT**

- Majority of the trail is on a 12% or greater slope or the trail has slopes which exceed 15%.
- Requires one to be in good physical condition and an experienced rider.
- May require bikers to have advanced skills.



See written standards & other details for additional requirements.

3' X 15' TURNOUT FOR PASSING

INSTALL EVERY 150' WHERE TRAIL TREAD
IS LESS THAN 10'-0". TRAIL TREAD
SHALL NOT BE LESS THAN 6'-0"
UNDER ANY CIRCUMSTANCE.

CITY OF ORANGE RECREATIONAL TRAILS

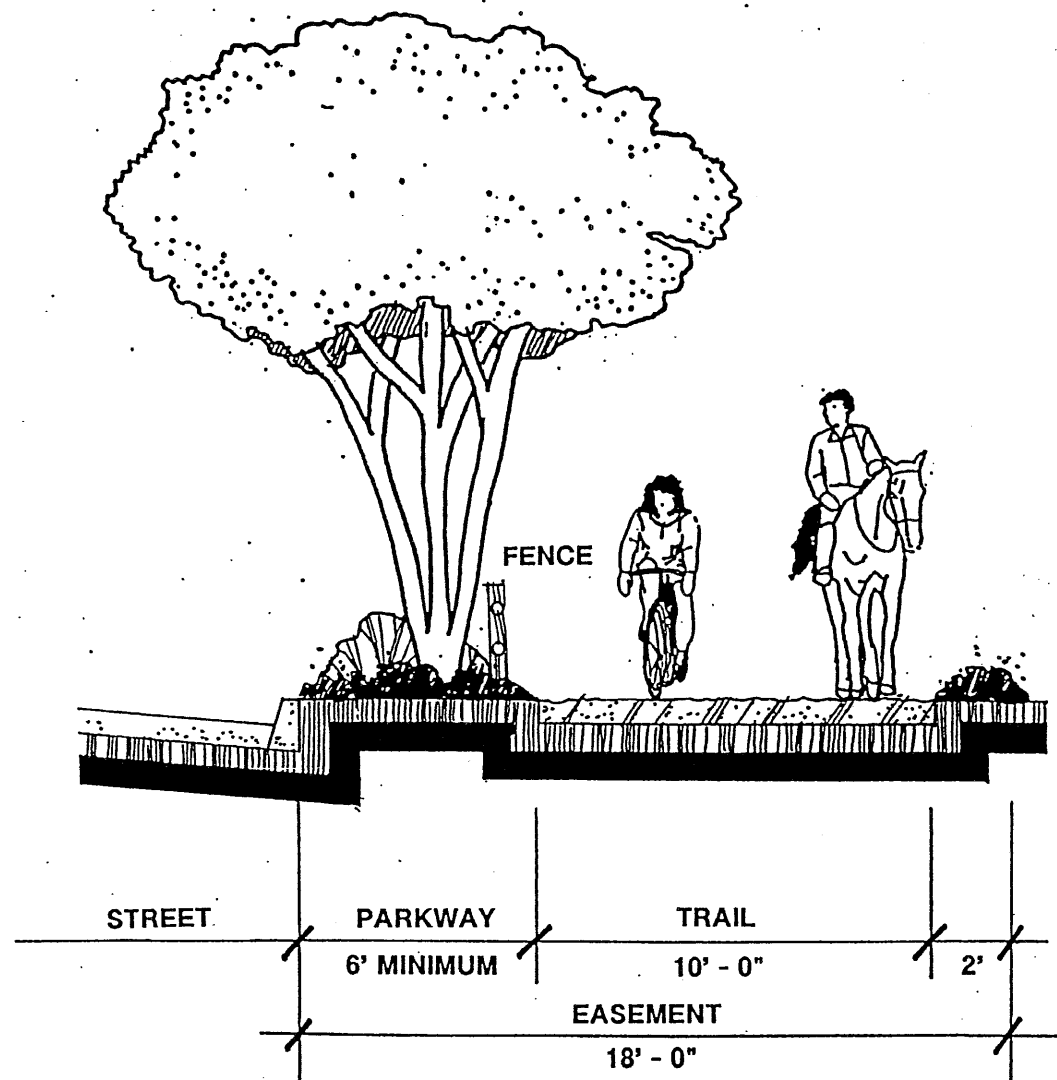
TURNOUT

MARCH 1993

DETAIL #

1





IF PARKWAY IS 10' OR GREATER, FENCE IS NOT REQUIRED IF SHRUBS ARE PLANTED TO PROVIDE A NON-BROKEN PLANT BARRIER. SHRUBS SHALL BE SELECTED TO REACH A MAXIMUM HEIGHT OF 3 1/2' AT MATURITY.

LOCATE ALL ABOVE GROUND UTILITIES OUTSIDE OF TRAIL TREAD

See written standards & other details for additional requirements.

CITY OF ORANGE RECREATIONAL TRAILS

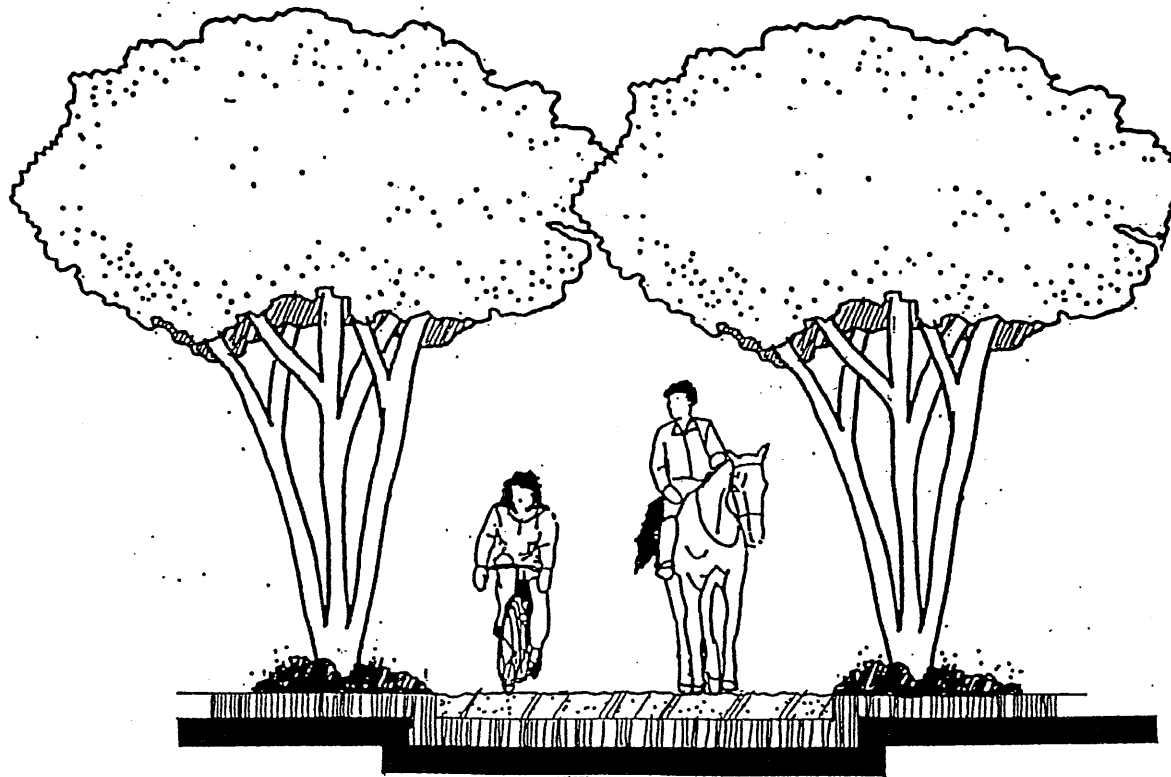
18' EASEMENT
ADJACENT TO STREET



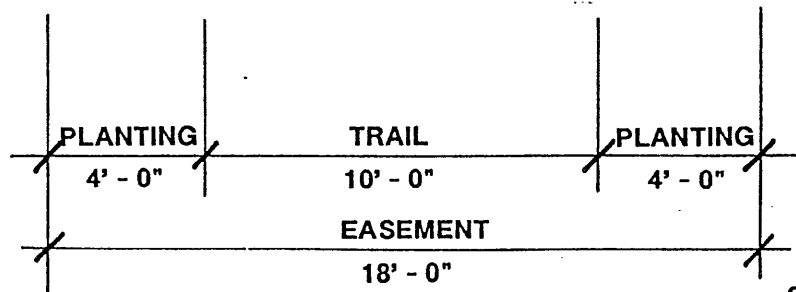
MARCH 1993

DETAIL #

2



LOCATE ALL ABOVE GROUND UTILITIES
OUTSIDE OF TRAIL TREAD



See written standards & other details for additional requirements.

CITY OF ORANGE RECREATIONAL TRAILS

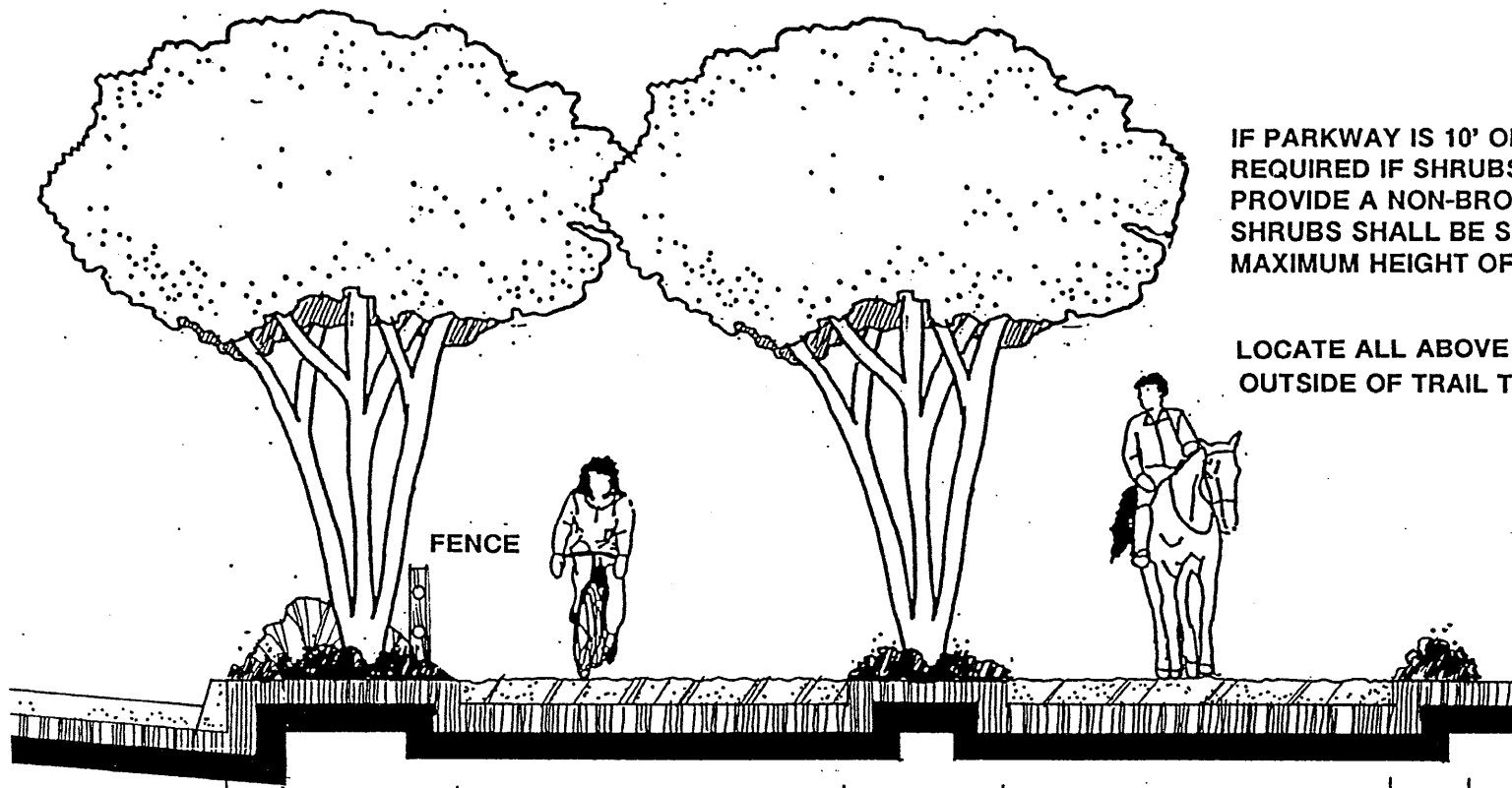
18' EASEMENT
NOT ADJACENT TO STREET



MARCH 1993

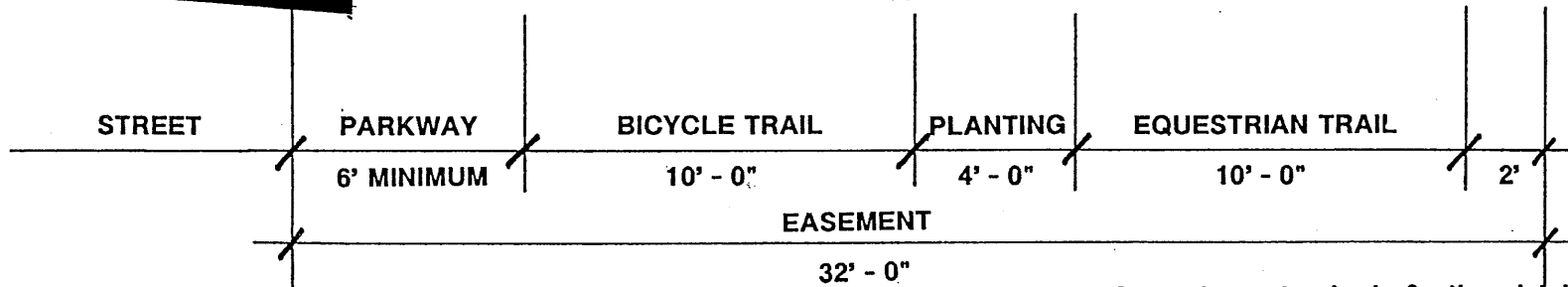
DETAIL #

3



IF PARKWAY IS 10' OR GREATER, FENCE IS NOT REQUIRED IF SHRUBS ARE PLANTED TO PROVIDE A NON-BROKEN PLANT BARRIER. SHRUBS SHALL BE SELECTED TO REACH A MAXIMUM HEIGHT OF 3 1/2' AT MATURITY.

LOCATE ALL ABOVE GROUND UTILITIES OUTSIDE OF TRAIL TREAD



See written standards & other details for additional requirements.

CITY OF ORANGE RECREATIONAL TRAILS

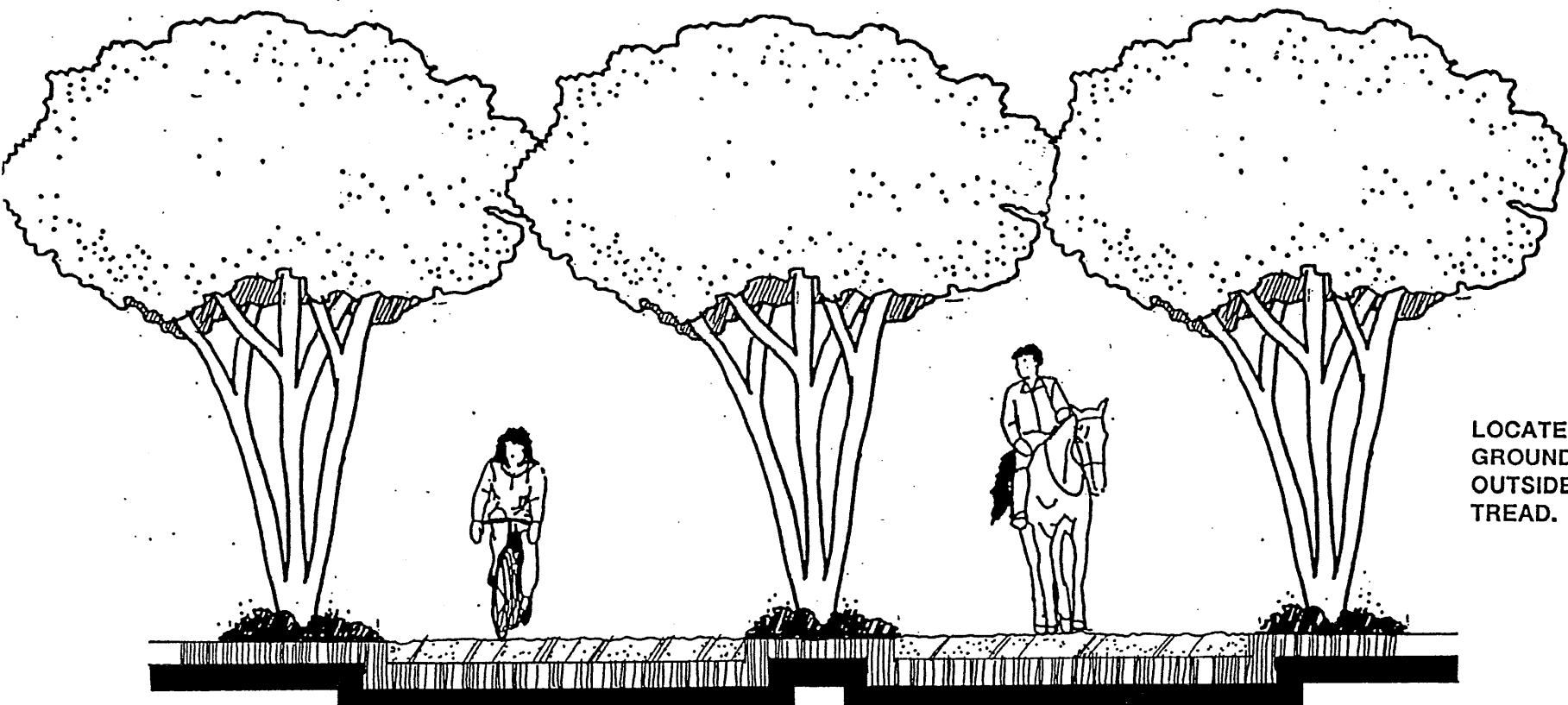
32' EASEMENT
ADJACENT TO STREET



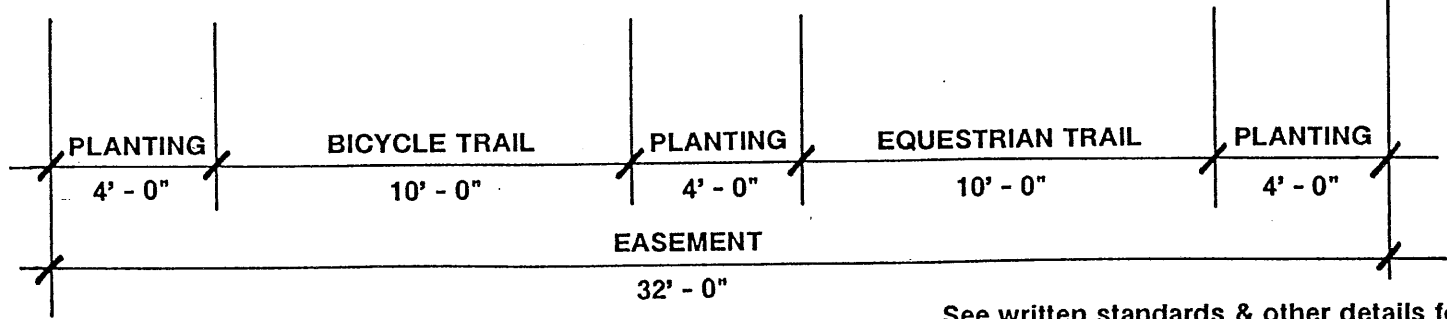
MARCH 1993

DETAIL #

4



LOCATE ALL ABOVE
GROUND UTILITIES
OUTSIDE OF TRAIL
TREAD.



See written standards & other details for additional requirements.

**CITY OF ORANGE
RECREATIONAL TRAILS**

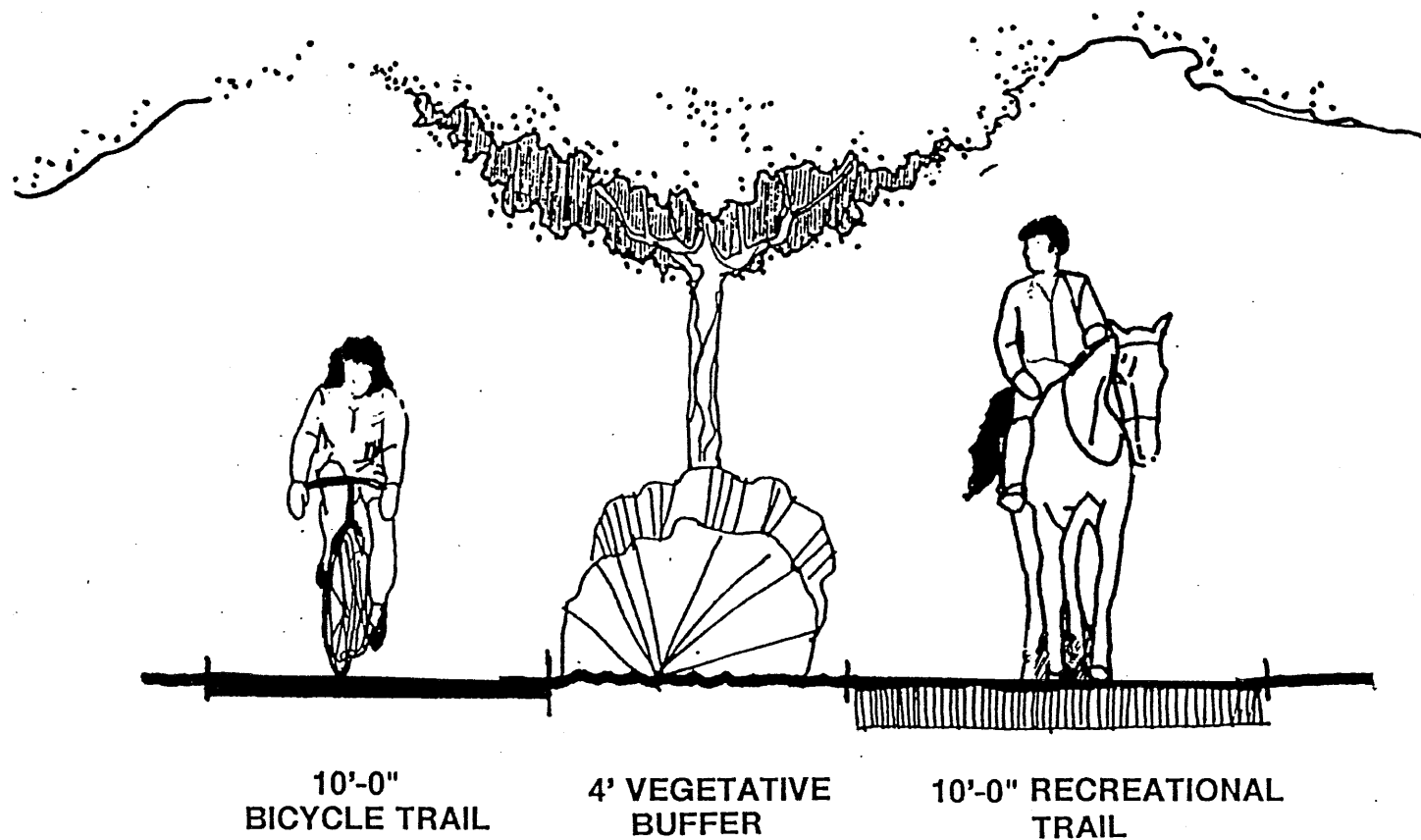
**32' EASEMENT
NOT ADJACENT TO STREET**

MARCH 1993

DETAIL #

5





See written standards & other details for additional requirements.

CITY OF ORANGE RECREATIONAL TRAILS

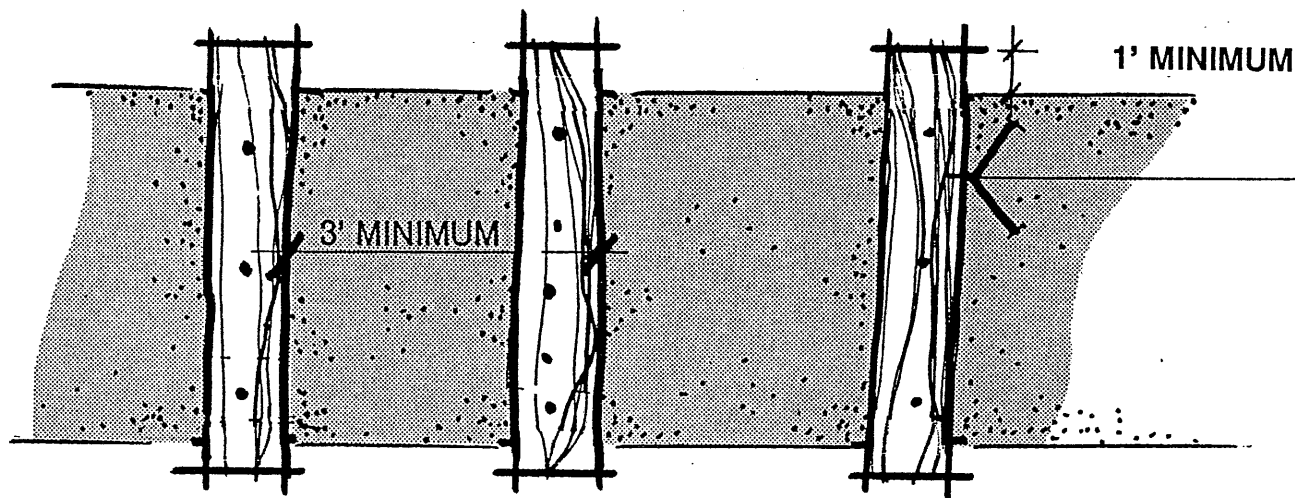


BICYCLE TRAIL/EQUESTRIAN TRAIL INTERFACE

MARCH 1993

DETAIL #

6

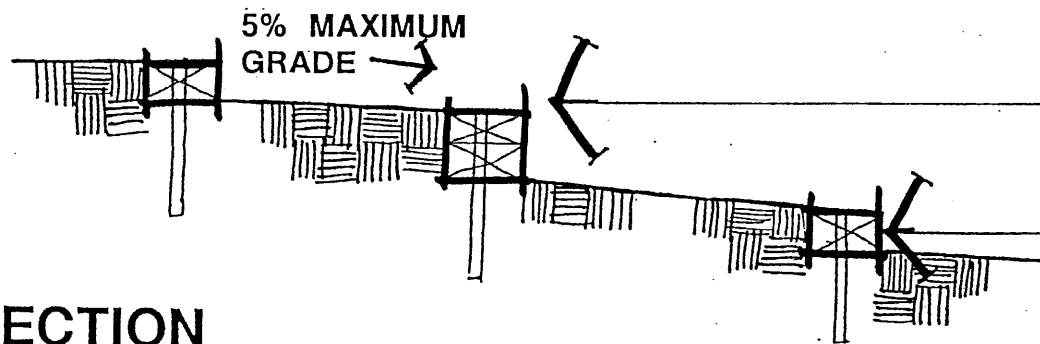


DRILL HOLES FOR STAKES:
3 STAKES PER TIE, SET
BELOW SURFACE OF TIE

STAKES ARE TO BE MINIMUM
#4 REBAR - 24" MINIMUM LENGTH

STAKES MUST BE COUNTERSUNK 1"

PLAN



TIES MAY BE STAKED (2) HIGH
BUT AT A MAXIMUM HEIGHT OF 12"

RAILROAD TIES

SECTION

See written standards & other details for additional requirements.

CITY OF ORANGE RECREATIONAL TRAILS

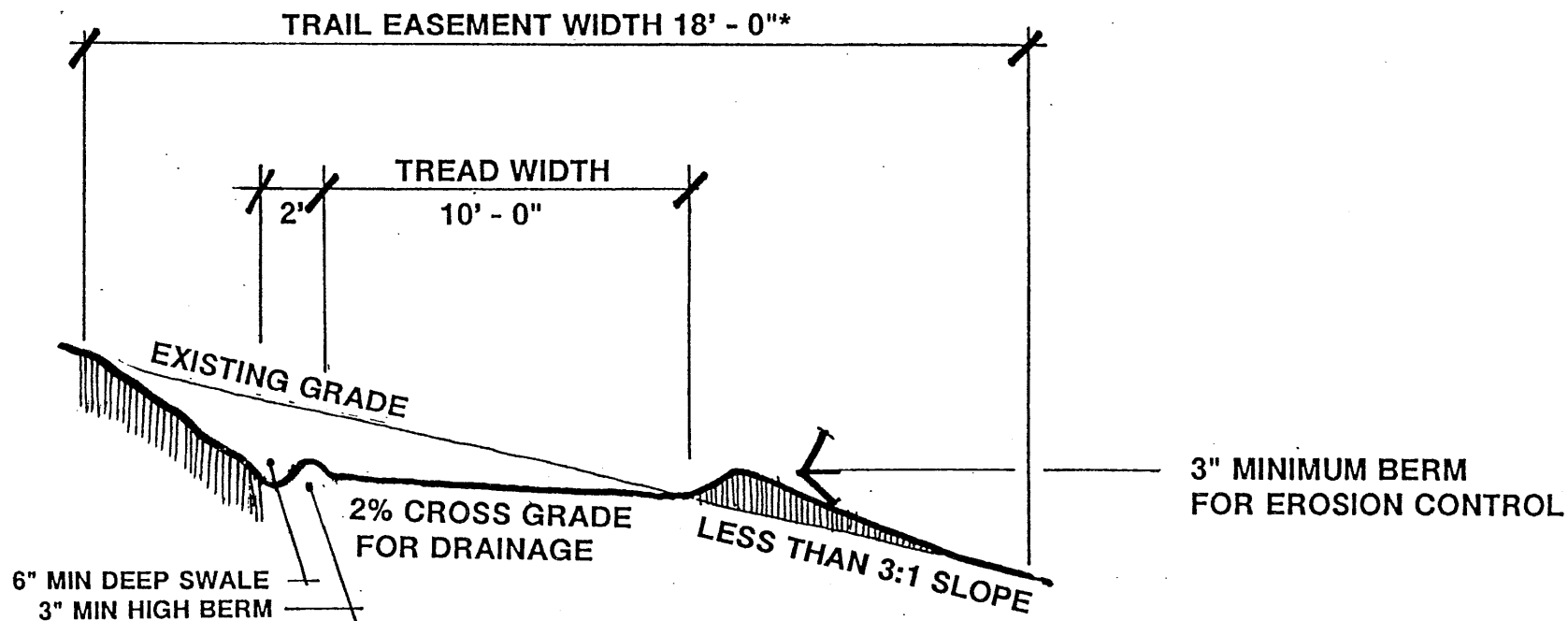
TERRACE STEPS



MARCH 1993

DETAIL #

7



SWALE AND BERM TYPICAL SIZE. ACTUAL DIMENSIONS WILL BE DETERMINED BY FIELD CONDITIONS.

DRAINAGE AND IRRIGATION SYSTEMS FOR ALL UP SLOPES SHALL BE DESIGNED TO PREVENT RUN-OFF ON TO TRAIL.

* TRAIL EASEMENT WILL BE 32' WHERE DUAL TRAILS ARE IMPLEMENTED (PER DETAIL #4 & #5).

See written standards & other details for additional requirements.

CITY OF ORANGE RECREATIONAL TRAILS

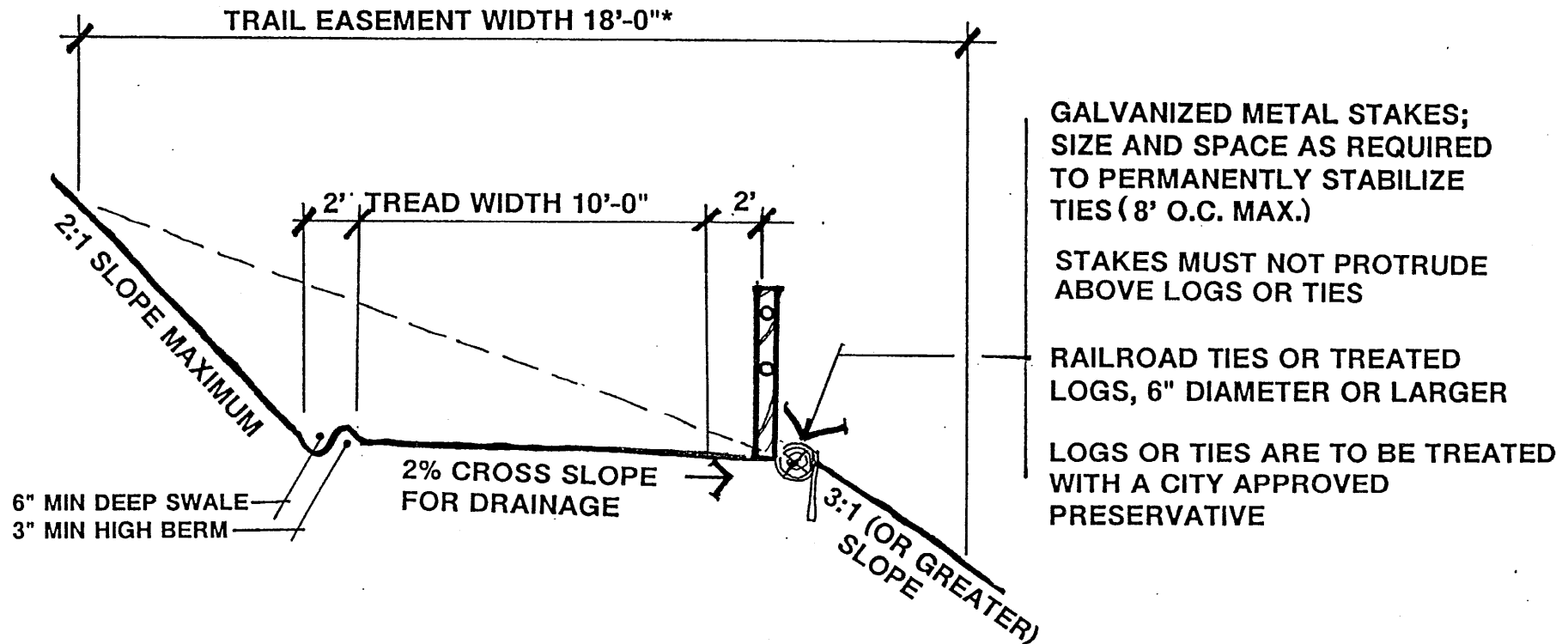
TRAIL SECTION
SIDE SLOPES LESS THAN 3:1



MARCH 1993

DETAIL #

8



SWALE AND BERM TYPICAL SIZE. ACTUAL DIMENSIONS WILL BE DETERMINED BY FIELD CONDITIONS.

DRAINAGE AND IRRIGATION SYSTEMS FOR ALL UP SLOPES SHALL BE DESIGNED TO PREVENT RUN-OFF ON TO TRAIL.

* TRAIL EASEMENT WILL BE 32' WHERE DUAL TRAILS ARE IMPLEMENTED (PER DETAIL #4 & #5).

See written standards & other details for additional requirements.

CITY OF ORANGE RECREATIONAL TRAILS

TRAIL SECTION
SIDE SLOPES GREATER THAN 3:1

MARCH 1993

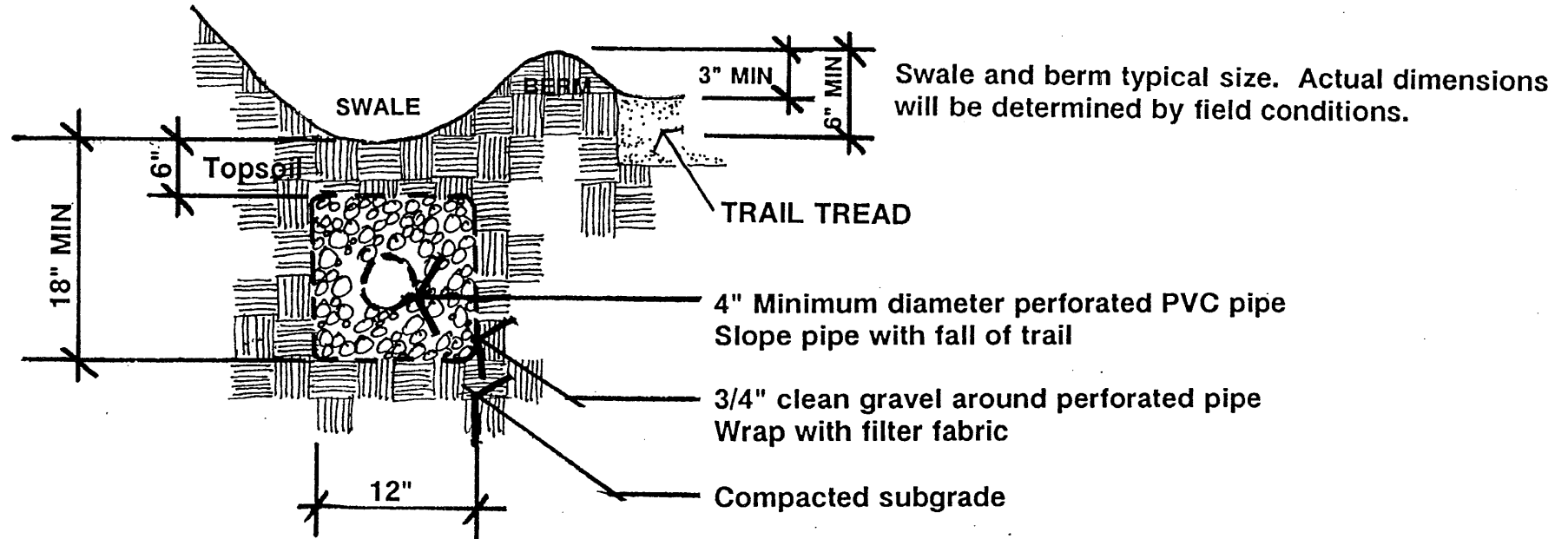
DETAIL #

9



Note:

The design of the drainage system will require analysis of specific site conditions to determine the placement & size of pipe, drains and outlets. This detail is provided for reference only and should not be used without site specific evaluation by a landscape architect or engineer.



See written standards & other details for additional requirements.

**CITY OF ORANGE
RECREATIONAL TRAILS**

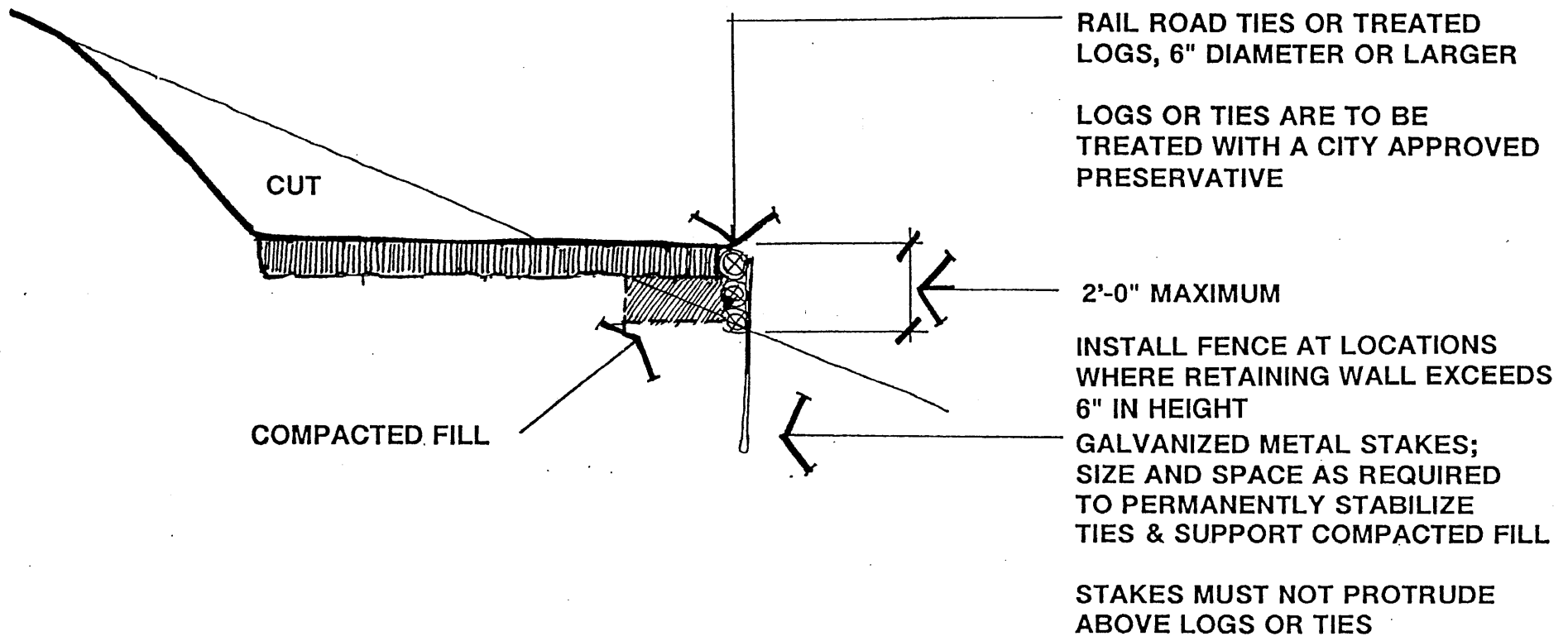
PERFORATED PIPE DRAIN



MARCH 1993

DETAIL #

10



See written standards & other details for additional requirements.

CITY OF ORANGE RECREATIONAL TRAILS

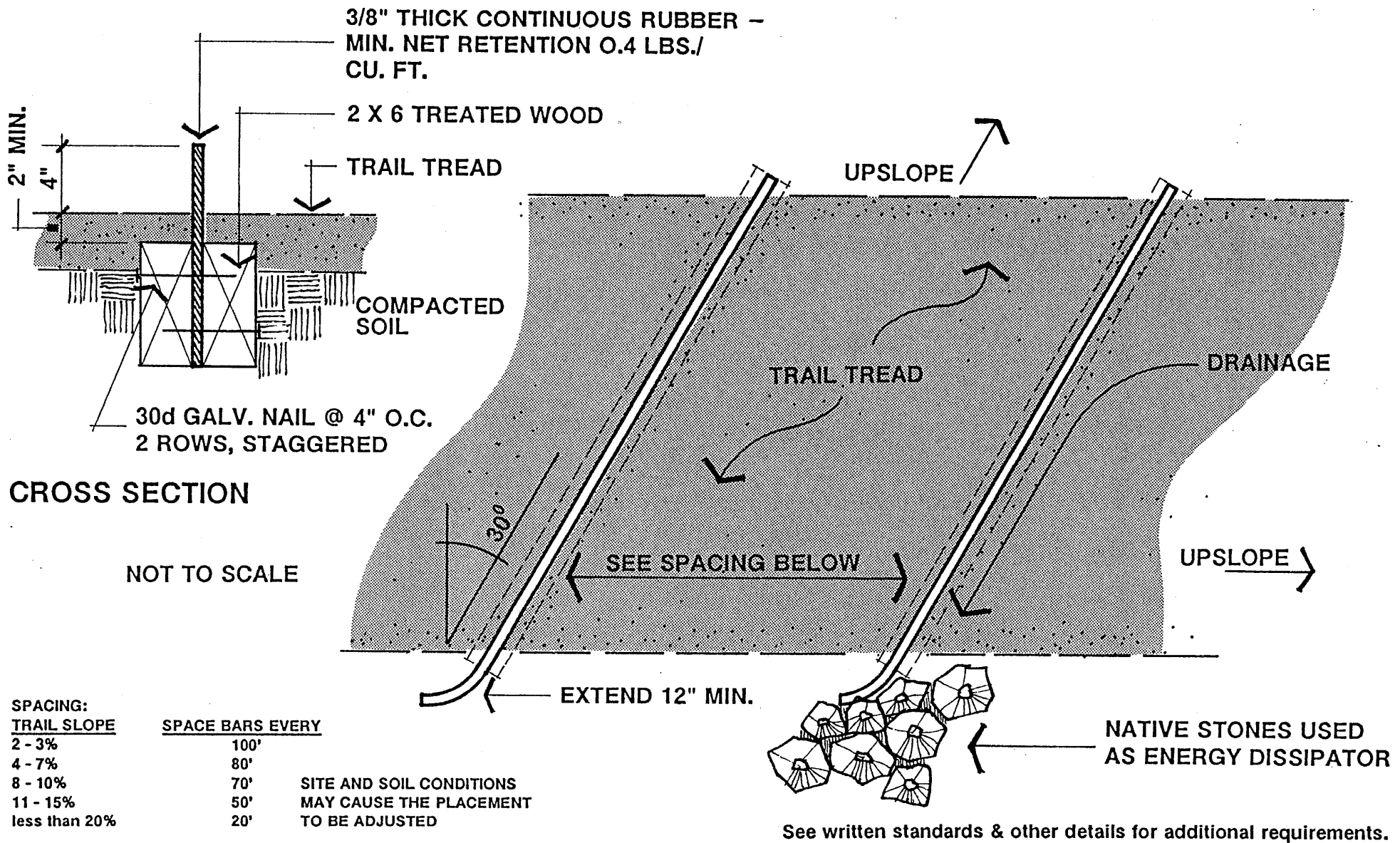
**RETAINING WALL
TRAILS ON UNSTABLE SOILS**



MARCH 1993

DETAIL #

11



CITY OF ORANGE RECREATIONAL TRAILS

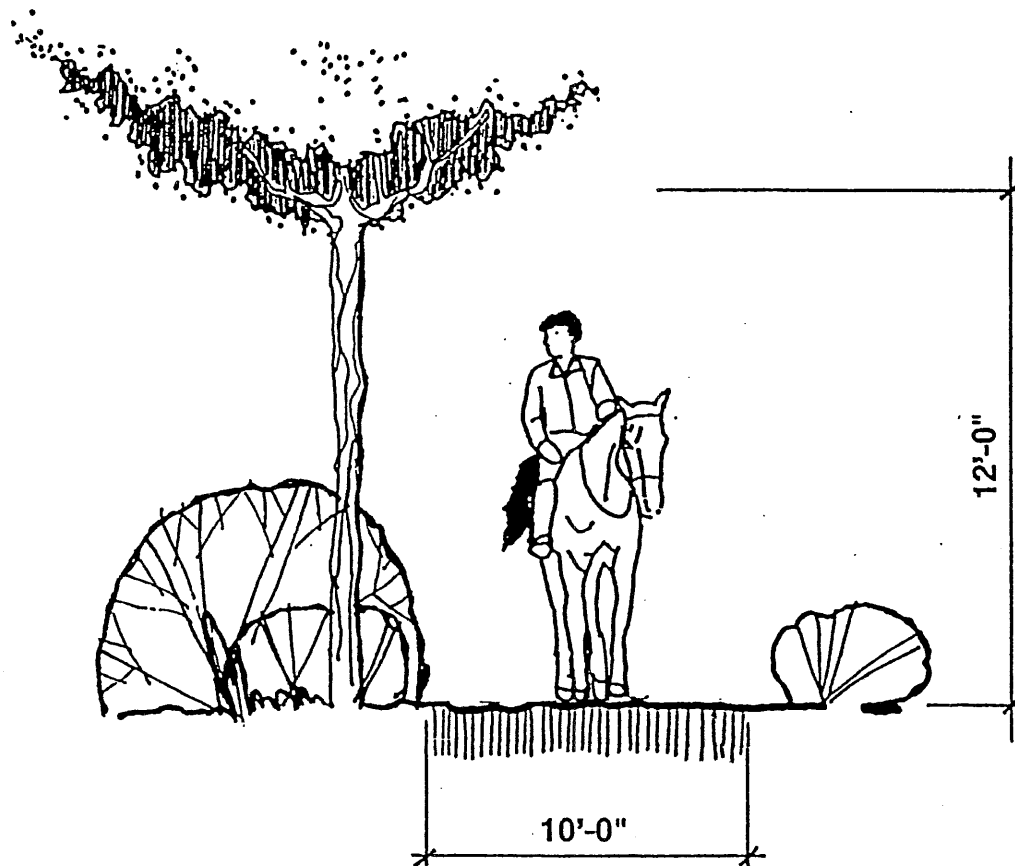
WATER BAR



MARCH 1993

DETAIL #

12



**TREES & SHRUBS TO BE PRUNED
FOR CLEARANCE SHOWN**

**NO TREES OVER 4" IN DIAMETER
ARE TO BE REMOVED. TRAIL SHOULD
BE RELOCATED AROUND 4" DIAMETER
TREES**

See written standards & other details for additional requirements.

**CITY OF ORANGE
RECREATIONAL TRAILS**

VEGETATION CLEARING



MARCH 1993

DETAIL #

13

PROPERTY LINE

CONTINUOUS CONCRETE HEADER

TRAIL

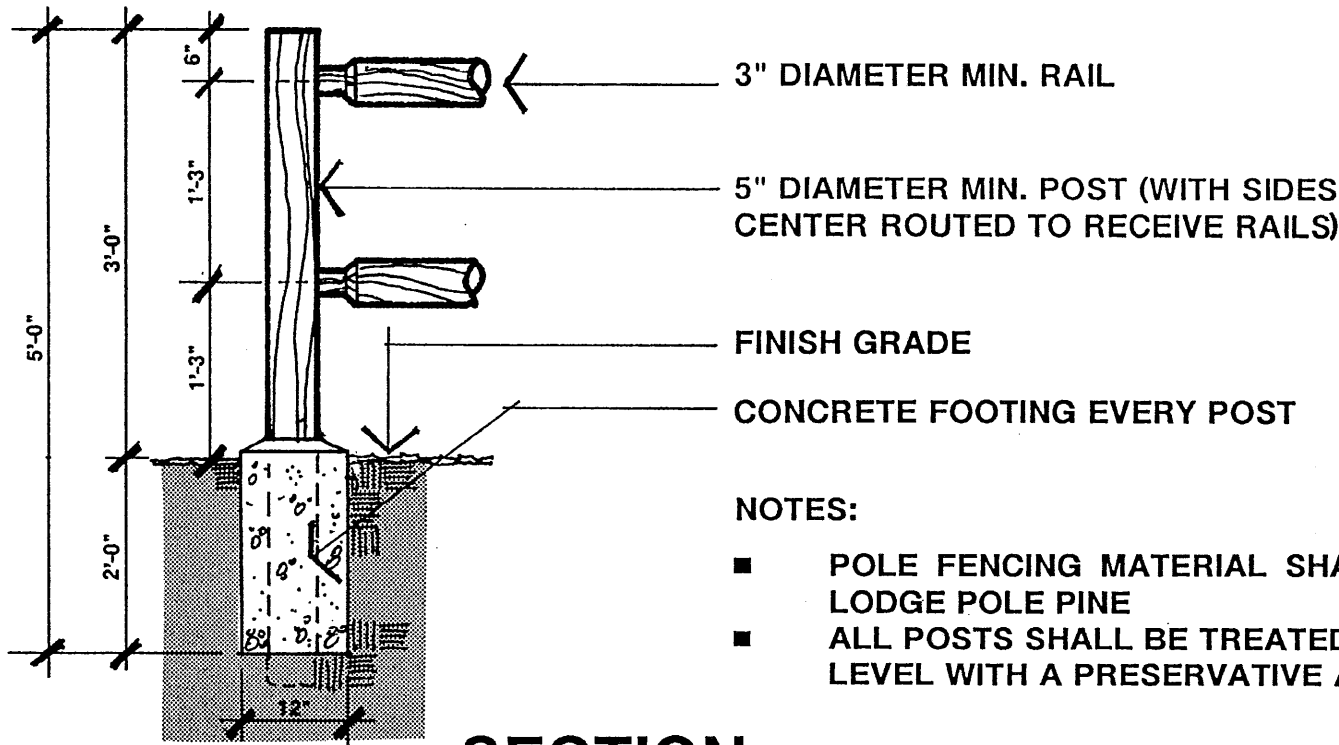
8'-0" O.C.

4 CONCRETE HEADER (USE WHERE DIRECTED BY CITY
AT RESIDENTIAL PROPERTY LINE PER DETAIL #15)
WHEN HEADER IS NOT USED, LOCATE FENCE ON PROPERTY LINE

5" DIAMETER MIN. POST

3" DIAMETER MIN. RAIL

PLAN



NOTES:

- POLE FENCING MATERIAL SHALL BE EITHER CEDAR OR LODGE POLE PINE
- ALL POSTS SHALL BE TREATED 4 INCHES ABOVE GROUND LEVEL WITH A PRESERVATIVE AS APPROVED BY THE CITY.

SECTION

See written standards & other details for additional requirements.

CITY OF ORANGE
RECREATIONAL TRAILS

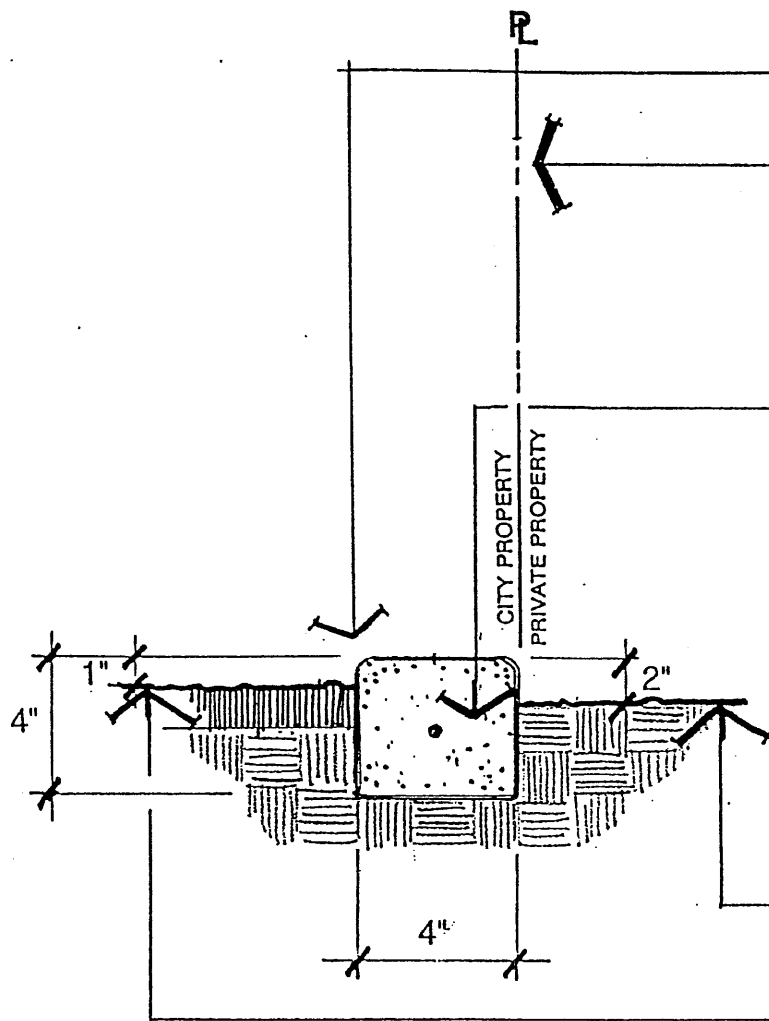
FENCE DETAIL



MARCH 1993

DETAIL #

14



ALIGN TRAIL FENCE WITH EDGE OF HEADER

ALIGN HEADER WITH PROPERTY LINE

CONCRETE HEADER

2000 PSI NATURAL GREY

SMOOTH TROWEL FINISH

1/4" RADIUS TO ALL EDGES

#3 REBAR CONTINUOUS (CENTERED)

LAP BARS 12" AT SPLICE & TIE

INSTALL 1/2" PRE-FORMED EXPANSION JOINTS
AT 15' O.C. MAX., & AT BEGINNING AND END
OF RADIUS. INSTALL WEAKEND PLANE JOINTS
@ 10' INTERVALS MAXIMUM.

FINISH GRADE AT TURF & GROUND COVER
AREAS 2" BELOW TOP OF HEADER

FINISH GRADE AT TRAIL TREAD
1" BELOW TOP OF HEADER

See written standards & other details for additional requirements.

**CITY OF ORANGE
RECREATIONAL TRAILS**

CONCRETE HEADER

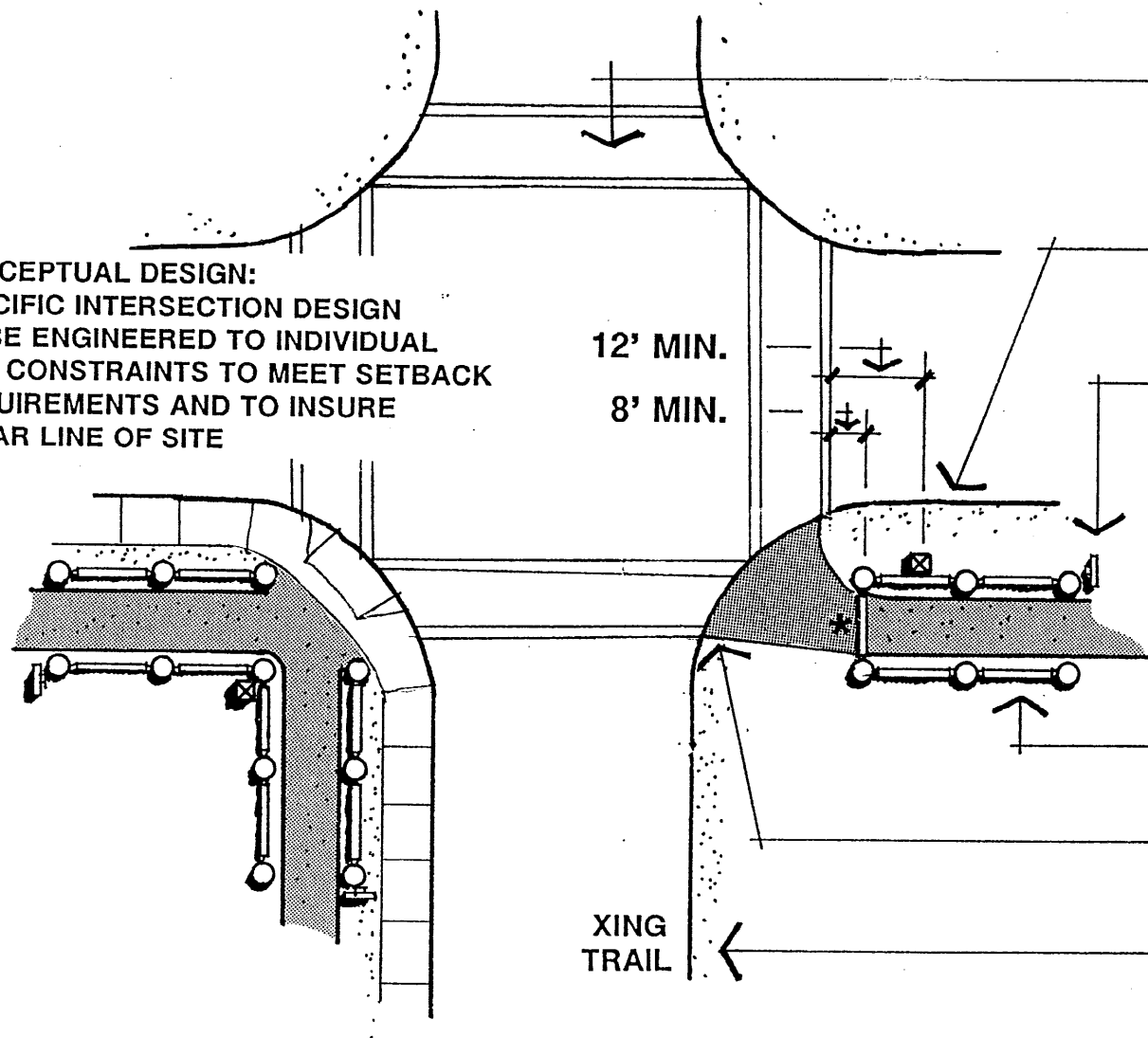


MARCH 1993

DETAIL #

15

CONCEPTUAL DESIGN:
SPECIFIC INTERSECTION DESIGN
TO BE ENGINEERED TO INDIVIDUAL
SITE CONSTRAINTS TO MEET SETBACK
REQUIREMENTS AND TO INSURE
CLEAR LINE OF SITE



PAINTED CROSSWALK WHERE
APPROPRIATE, PER CITY
STANDARDS

PUSH BUTTON ACTIVATED CROSSING
SIGNAL (SEE DETAIL #25)

"ROADWAY INTERSECTION AHEAD"
SIGN 60' FROM CURB (TYPICAL
BOTH SIDES OF STREET)

* INSTALL MOTORCYCLE BARRIER
WHERE REQUIRED

LODGEPOLE FENCE SET BACK MINIMUM
OF 8'-0" FROM CURB FACE

DEPRESS CURB TO ACCOMMODATE
HANDICAPPED USERS (PER CITY
STREET STANDARDS)

AT NON SIGNALIZED INTERSECTIONS:
PAINTED LETTERS 250' IN ADVANCE
OF UNCONTROLLED CROSSINGS

CITY OF ORANGE RECREATIONAL TRAILS

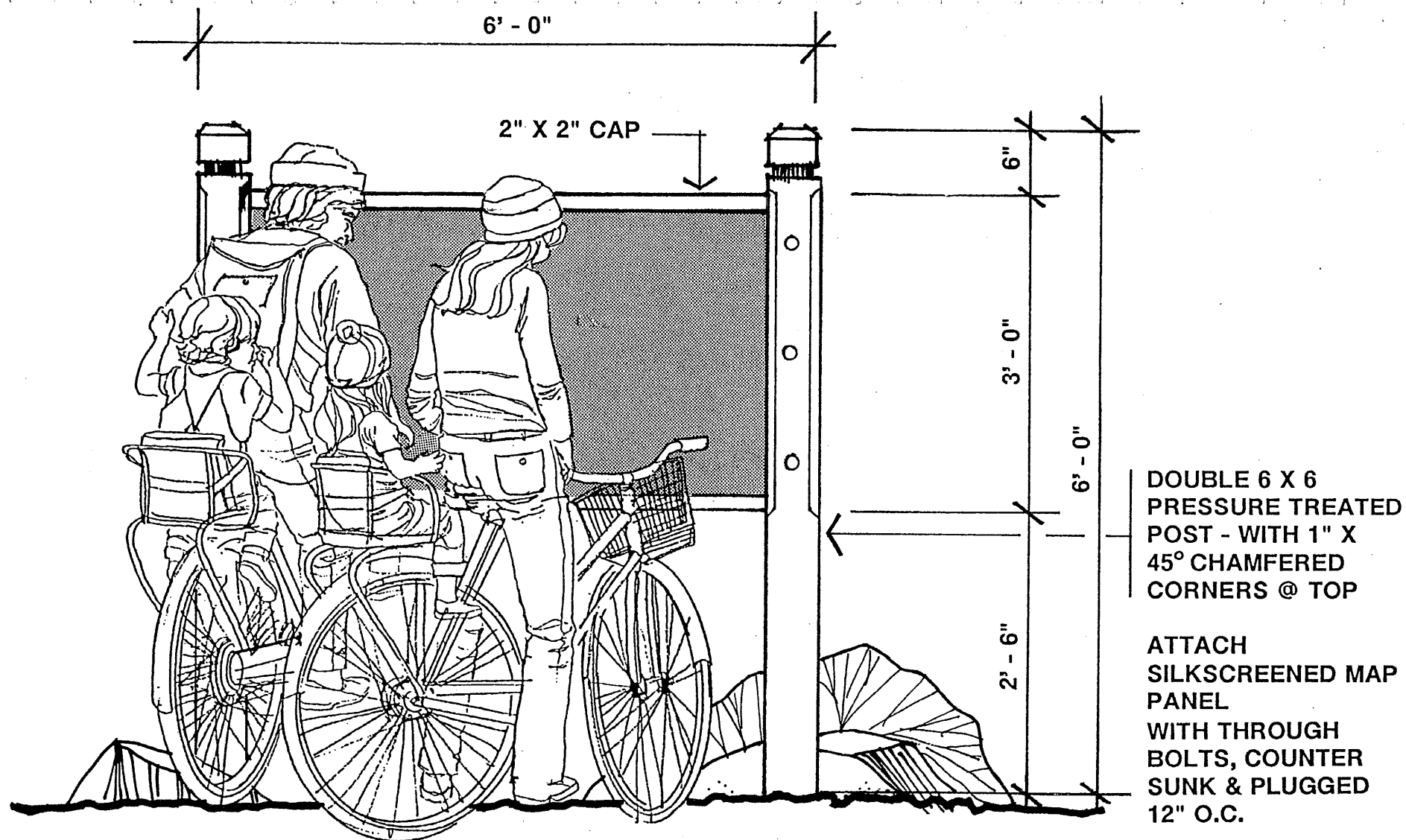


INTERSECTION CROSSING GUIDELINES

MARCH 1993

DETAIL #

16



See written standards & other details for additional requirements.

CITY OF ORANGE RECREATIONAL TRAILS

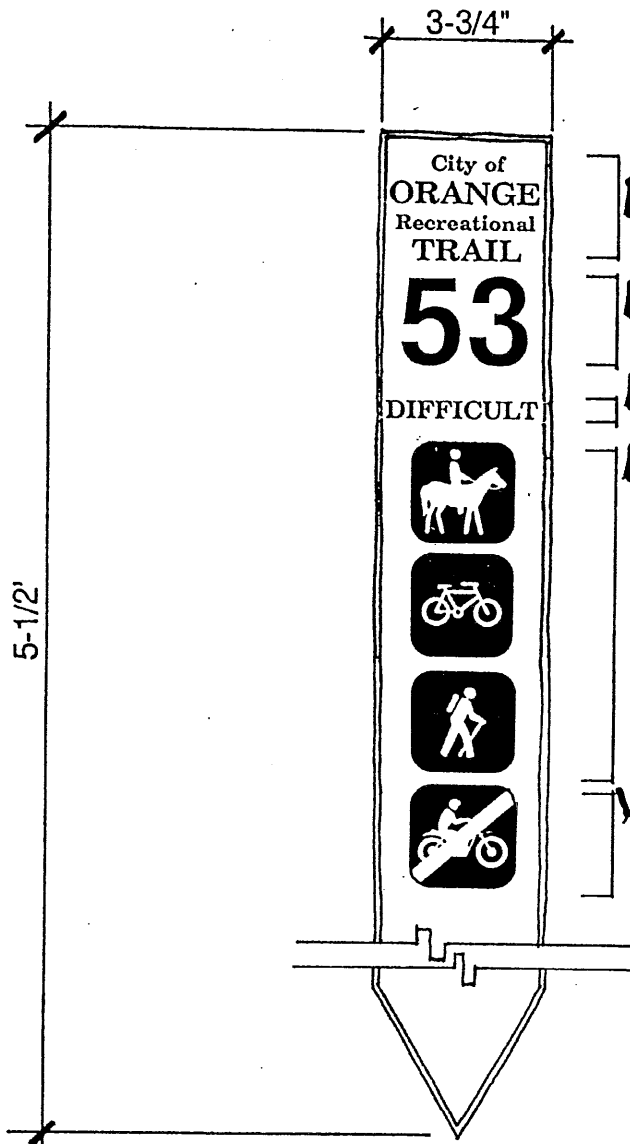
TRAIL HEAD SIGN



MARCH 1993

DETAIL #

17



DUAL SIDED FLEXIBLE MARKER

CITY TRAIL IDENTIFICATION (2")

TRAIL NUMBER (1 1/2")

TRAIL DIFFICULTY (1/2")

PERMITTED TRAIL USERS
(3" x 3" BROWN & WHITE SYMBOLS)

PROHIBITED ACTIVITIES
(3" x 3" BROWN & WHITE SYMBOLS
WITH RED SLASH)

USE CARSONITE DUAL SIDE RECREATIONAL
MARKER (C1B - 3066) (1-800-648-7974) OR
APPROVED EQUIVALENT. COLOR: BROWN

ALL SIGN TEXT TO BE PREPARED ON PRESSURE
SENSITIVE DECALS, USING WHITE CENTURY
SCHOOLBOOK LETTER STYLE, ON BROWN BACKGROUND.
AFFIX DECALS TO BOTH SIDES IN THE SAME POSITION.

ALTERNATE SIGNAGE FROM ONE SIDE OF TRAIL
TO OTHER. SET CLEAR OF TRAIL TREAD.

See written standards & other details for additional requirements.

**CITY OF ORANGE
RECREATIONAL TRAILS**

TRAIL MARKER



MARCH 1993

DETAIL #

18

City of Orange
Recreational Trail

**EQUESTRIANS
WAIT HERE
FOR
CROSSING
LIGHT**

City of Orange
Recreational Trail

**REST AREA
AHEAD
500 FEET**

City of Orange
Recreational Trail

**TRAIL
INTERSECTION
AHEAD**

City of Orange
Recreational Trail

**TRAIL
CLOSED**

City of Orange
Recreational Trail

**STEEP
GRADIENT

USE CAUTION**

8" X 8" SIGN
(CARSONITE CRM-88 OR APPROVED
EQUIVALENT)

MOUNT TO FLEXIBLE TRAIL MARKER
5 1/2' LONG, COLOR: BROWN
(CARSONITE CRM-375 OR APPROVED
EQUIVALENT)

BURY POST 24"

See written standards & other details for additional requirements.

**CITY OF ORANGE
RECREATIONAL TRAILS**

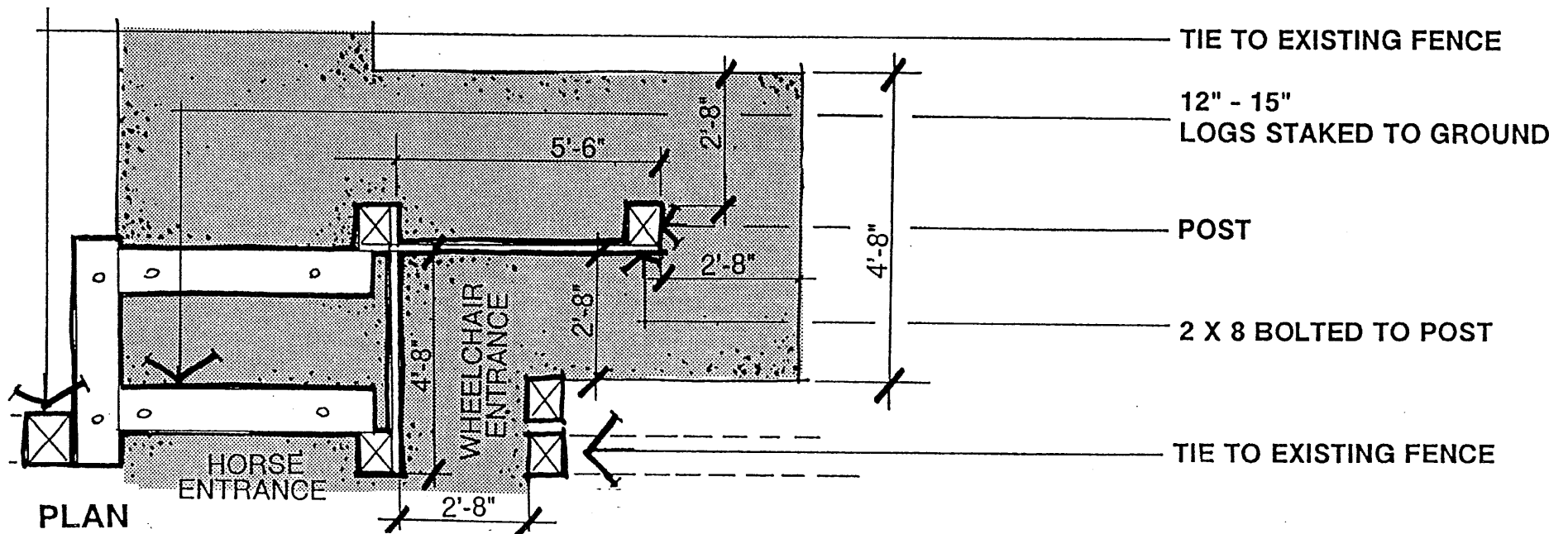
SIGNAGE



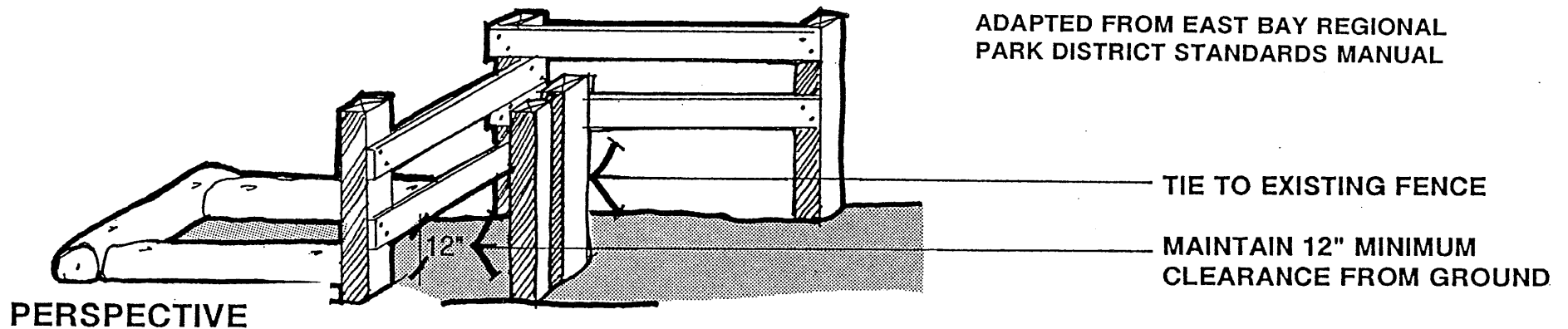
MARCH 1993

DETAIL #

19



ADAPTED FROM EAST BAY REGIONAL
PARK DISTRICT STANDARDS MANUAL



See written standards & other details for additional requirements.

CITY OF ORANGE RECREATIONAL TRAILS

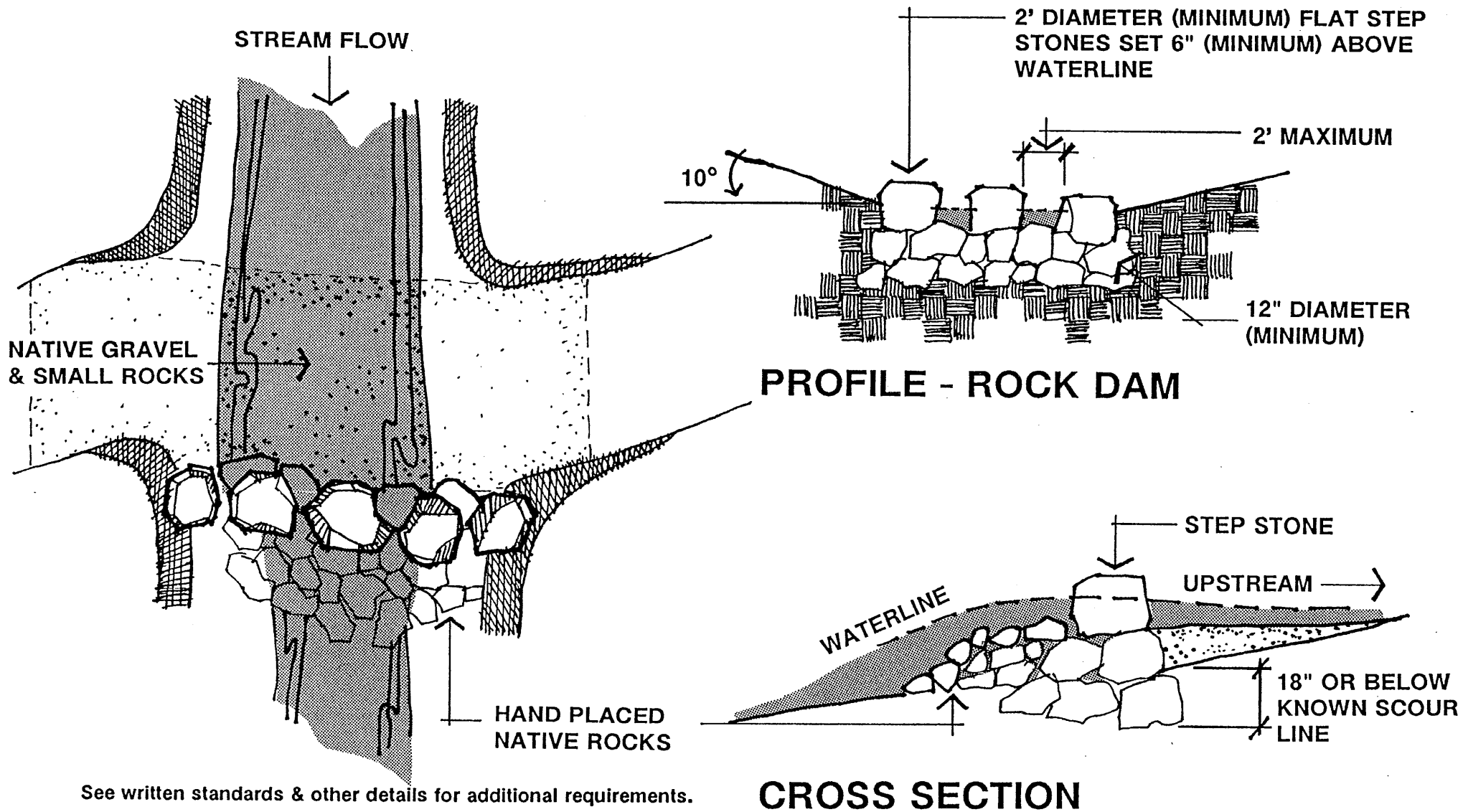
MOTORCYCLE BARRIER
(ALLOWS EQUESTRIAN/WHEELCHAIR ACCESS)



MARCH 1993

DETAIL #

20



CITY OF ORANGE RECREATIONAL TRAILS

WET CROSSING



MARCH 1993

DETAIL #

21

SET SPIKES 8' O.C. MAX.
DRIVEN TO A DEPTH BELOW
TOP OF POLE SURFACE

TREAD MATERIAL

TREATED POLES
4" DIAMETER

6' WIDTH MIN.
COMPACTED FILL

10" MIN.

6" MIN.

TRENCH

ADAPTED FROM NATIONAL PARK
SERVICE TRAILS MANAGEMENT
HANDBOOK

See written standards & other details for additional requirements.

CITY OF ORANGE RECREATIONAL TRAILS

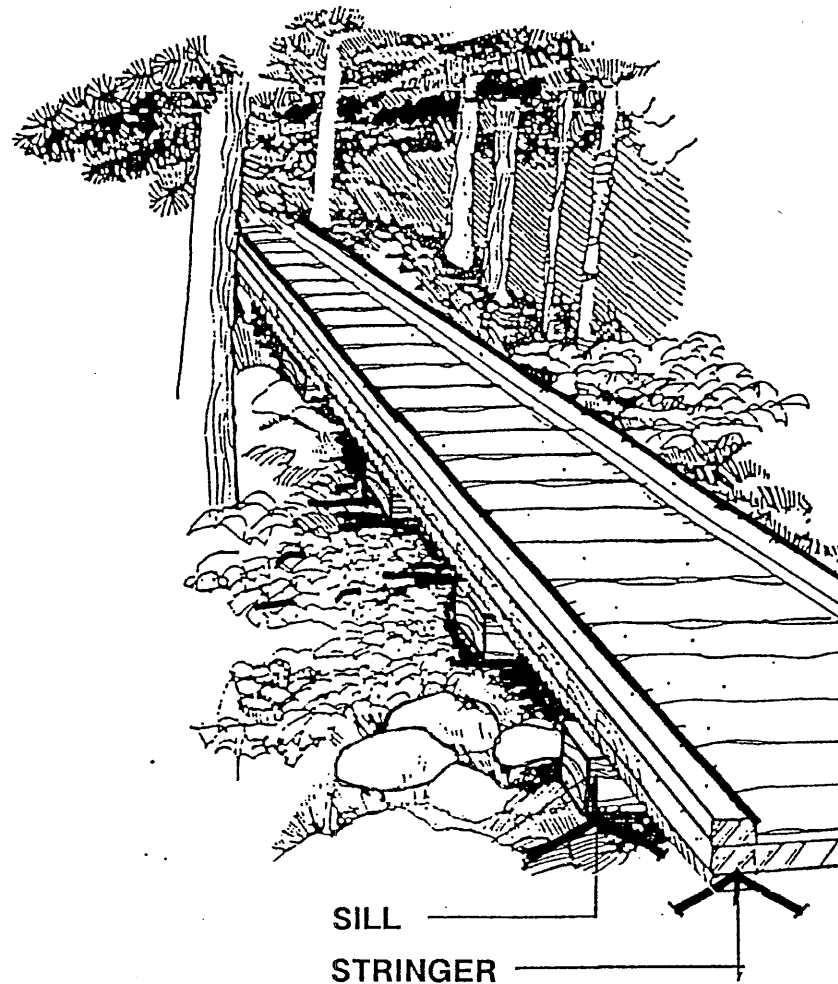
TURNPIKE



MARCH 1993

DETAIL #

22



ADAPTED FROM NATIONAL PARK
SERVICE TRAILS MANAGEMENT
HANDBOOK

SILL
STRINGER

RAIL

DECK

See written standards & other details for additional requirements.

CITY OF ORANGE RECREATIONAL TRAILS

BUILT UP PUNCHEON

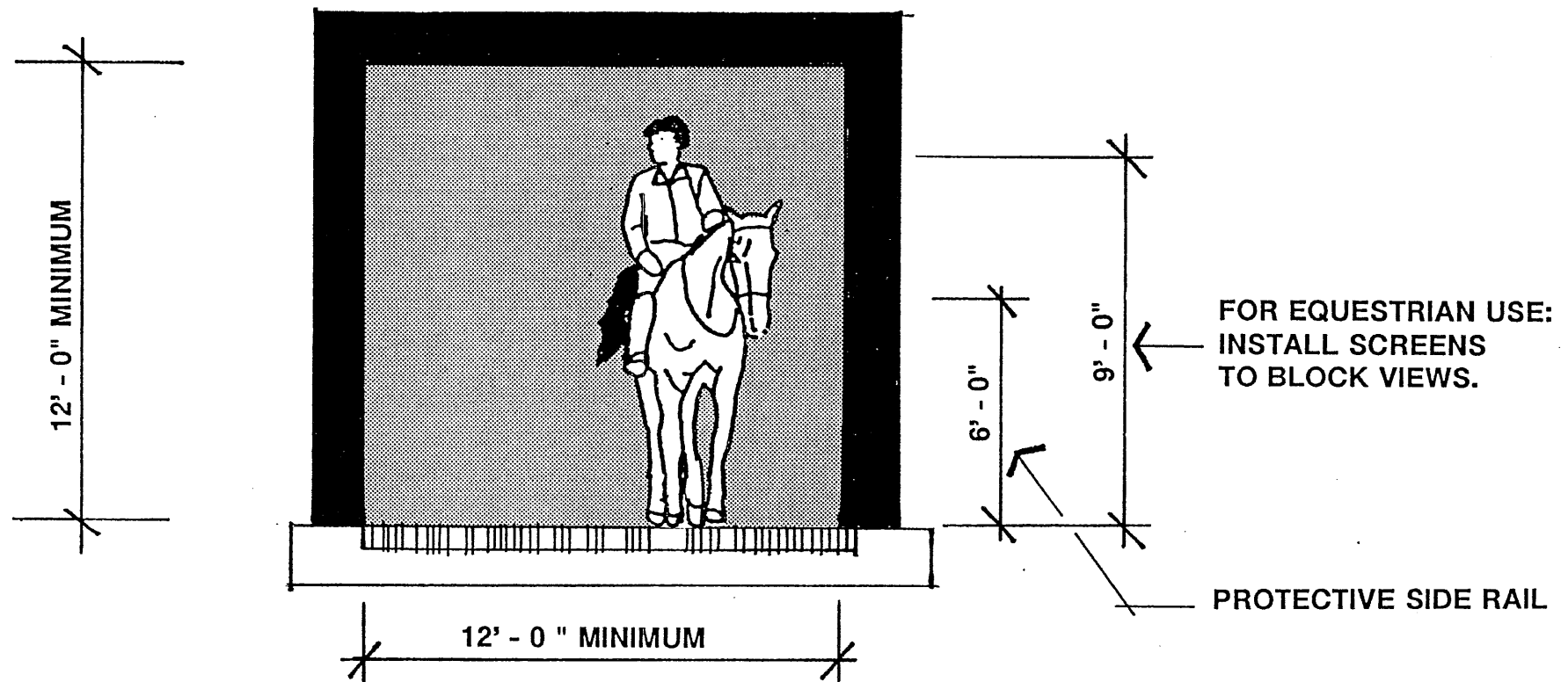


MARCH 1993

DETAIL #

23

TREAD: NON-SKID OR NON-SLIP SURFACE SUCH AS WOOD, TEXTURED CONCRETE OR ASPHALT. 8% MAXIMUM SLOPE.



See written standards & other details for additional requirements.

**CITY OF ORANGE
RECREATIONAL TRAILS**

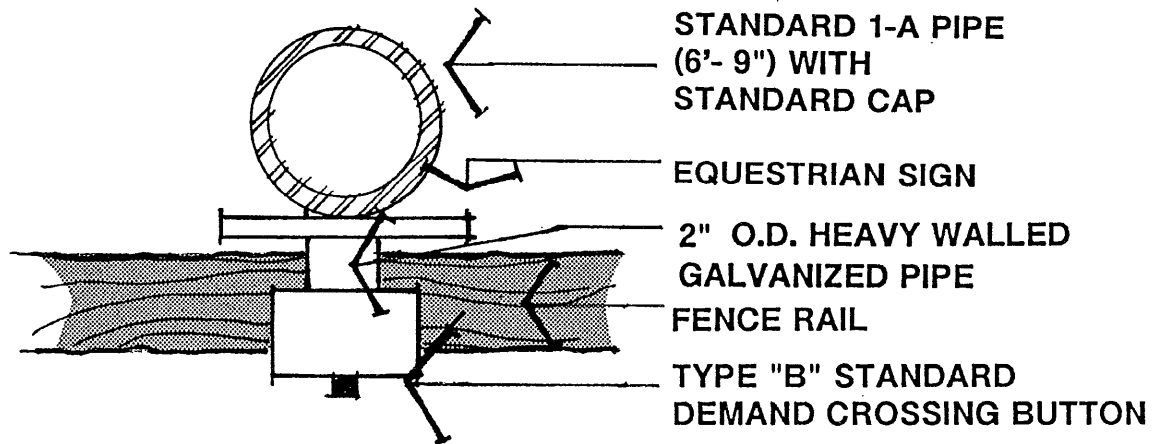
BRIDGE



MARCH 1993

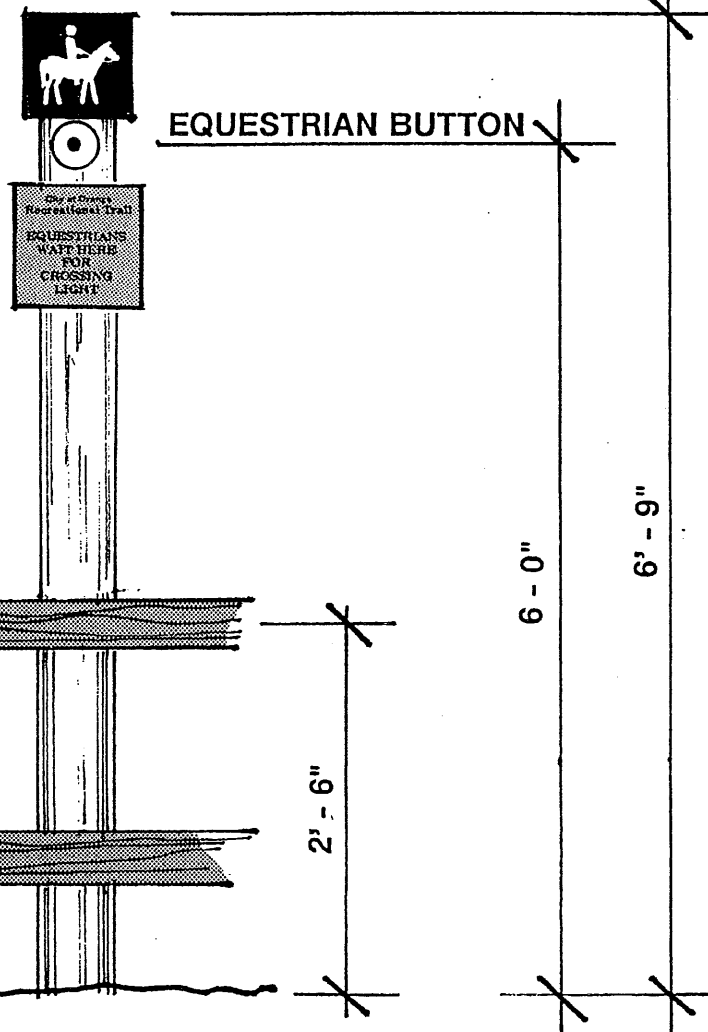
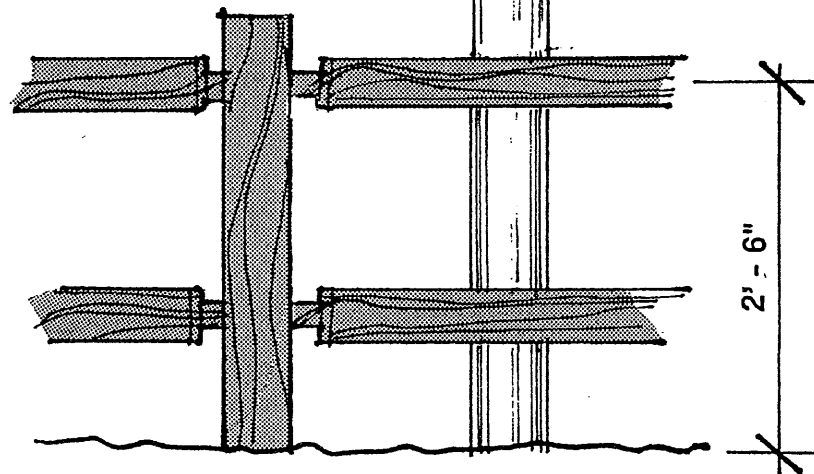
DETAIL #

24



INSTALL PUSH BUTTON ACTIVATED EQUESTRIAN CROSSING BUTTON, LOCATED PER DETAIL #16

PEDESTRIAN BUTTON IS LOCATED AT INTERSECTION. THE HEIGHT OF THE BUTTON WILL BE 3' - 10".



See written standards & other details for additional requirements.

CITY OF ORANGE RECREATIONAL TRAILS

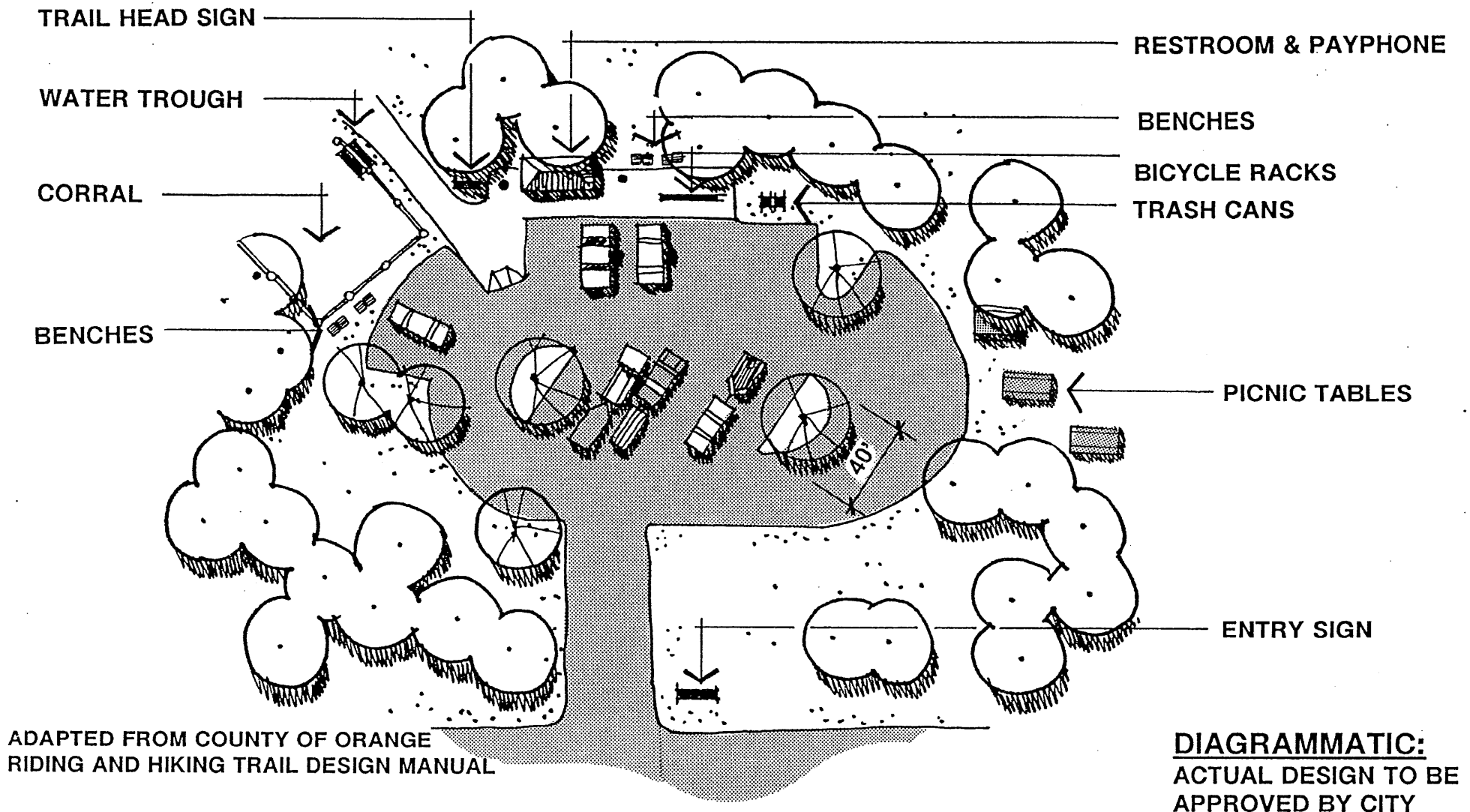


SIGNAL DEMAND CROSSING

MARCH 1993

DETAIL #

25



See written standards & other details for additional requirements.

CITY OF ORANGE RECREATIONAL TRAILS

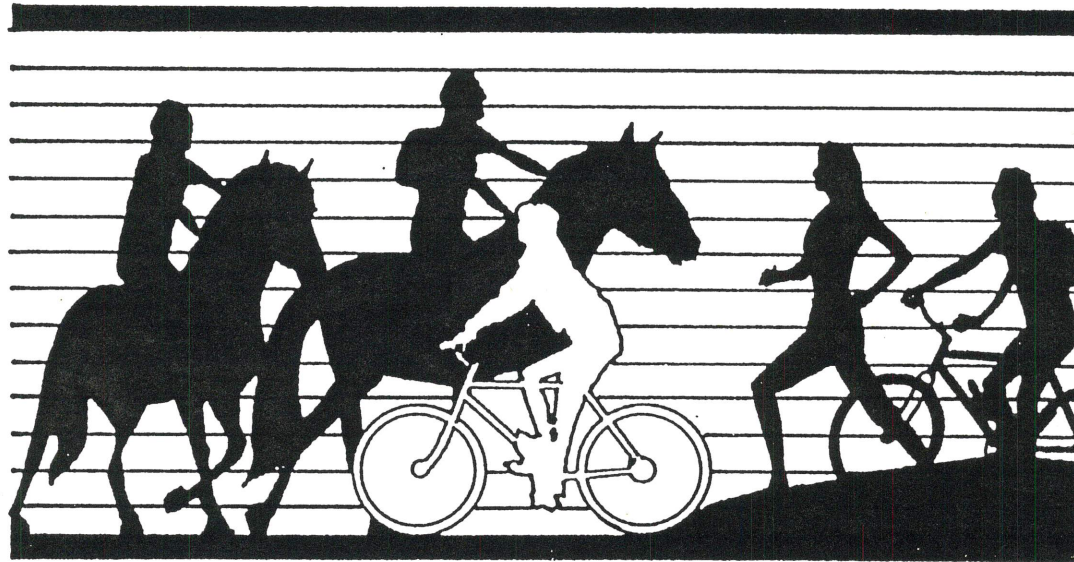
STAGING AREA



MARCH 1993

DETAIL #

26



IMPLEMENTATION

Implementation Plan

In this section, the implementation of the trails plan will be addressed. Included in the analysis will be the various methods of acquiring trail segments, installation responsibility, phasing and implementation costs.

■ METHODS OF ACQUIRING TRAILS

The first step in the implementation process will be the adoption of the Recreational Trails Master Plan as part of the General Plan Amendment Process. The Trails Master Plan will be an important part of the Open Space and Conservation Element and will enable the City to proceed with implementation with the authority of the General Plan. The General Plan Process will ratify existing trail segments and enable the City to actively proceed to implement the remaining sections.

There are several avenues which the City can use to acquire trail segments:

- A. Dedications and Donations
- B. Cooperative Agreements
- C. Purchase

A. DEDICATIONS AND DONATIONS:

■ Dedications

1. Acquisitions from Developers

Whenever a development proposal such as a tract map or parcel map borders on or encompasses a portion of a proposed or existing trail as identified on the Trails Master Plan, the City shall require both the dedication and improvement of the trail segment(s) as a condition of approval. In areas where a homeowner's association is formed, the City may choose to not take title to the easement but rather to require that the developer install and maintain the trail segment perpetually. This approach frees the City of the long term maintenance responsibility of these segments and places it in the hands of the homeowner's association. The City must be careful to insure that homeowners' associations agree to allow unrestricted public access to the trails for all types of recreational users.

2. Density Trade-Offs

Density trade-offs may allow a developer to increase the number of units per acre in exchange for the dedication of a trail easement and the construction of that trail. In this way, green space corridors are consolidated for the common good of the community. They can include: 1) cluster zoning, which groups units in one portion of the site and allows for the remainder to be used as common open space; and 2) incentive zoning which allows an increase in density of development greater than would normally be permitted in exchange for the trail.

3. Open Space Easements

The City, in conjunction with the County of Orange, could enact an ordinance in accordance with Government Code Section 51200 et. seq., the California Land Conservation Act of 1965, which would permit the City to acquire trail easements from landowners in return for lower tax assessments on that portion of the property.

■ **Donations**

1. Corporate Grants

Seeking corporate grants can be an appropriate, largely untapped source of revenues for assisting in the financing of a community-oriented project. Grant requests should be targeted to those companies whose employees could benefit most closely from access for recreational and physical conditioning purposes and whose operation is near the proposed corridor of the trail.

2. Establishing a Non-profit Advocacy Organization

A coalition of trail advocates could organize a non-profit group (ex: "Friends of Orange Trails") that would support the trail's realization and solicit donations for its development and management. This organization would be similar to the Orange Park Association, however, its purpose would be city-wide rather than concentrated in one locale. For the sake of fund-raising legitimacy, the organization would need to have a 501-C3 tax status. Land conservation groups play an important constituency-building and watchdogging role as well. Such a group could play a vital and ongoing role in assisting the City in raising funds both privately and from grants as well as coordinating the trail's implementation.

3. Service Organizations

Service, community and fraternal organizations can offer volunteer workers for trail construction and maintenance, as well as solicit free or wholesale materials and construction equipment for trail construction (wood, asphalt, etc.) The Orange Park Association has already been very active in this regard and the City should encourage groups of this type to join forces to implement the trail system. In addition, the City could create and underwrite "trail adoption" programs, that enable service and hiking/biking clubs to maintain particular sections of the trail. Corporations and businesses tend to look favorably on donations and employee volunteer activity.

4. Gifts Catalog

Preparation of a line item "wish list" which could be distributed to service groups and the public would be valuable in securing donations. A description of trail components such as "a mile of trail along Santiago Creek" and "a bicycle rack at Hart Park" along with their associated costs would be included.

B. COOPERATIVE AGREEMENTS:

The City should formulate joint agreements with public and private agencies which are responsible for utility corridors to establish permanent trail segments. In Orange, these would include the Santa Fe Railroad and Southern California Edison.

1. Rails-to-Trails

The Rails-to-Trails Program, which advocates the use of abandoned, seldom used or low volume rail lines is a valuable program. The Rails-to-Trails Conservancy (RTC) is a non-profit organization created in 1985 to carry out a program of:

- | | |
|------------------------|---------------------|
| o technical assistance | o negotiation |
| o legislation | o regulatory action |
| o public education | o advocacy |

Through its nationwide network of contacts in the recreation and conservation communities, the Conservancy notifies state and local officials of upcoming abandonments; assists public and private agencies in following proper legal procedures and publicizes rails-to-trails issues throughout the country.

At the national level, RTC works for improved regulations and increased funding to promote rail-trail conversions. The abandoned railroad easement that runs north-south in Orange connecting Villa Park and Tustin is an excellent candidate for this program. The address of the Rails-to-Trails Conservancy is: 1400 Sixteenth Street, Washington, D.C. 20036, (202) 797-5400.

2. **Southern California Edison**

Included within the Master Plan are approximately 7 miles of trail on Southern California Edison easements. Because many of the adjacent parcels have already been developed, implementation and maintenance of these segments of trail would fall to the City of Orange. However, an irrevocable dedication of joint use of the easement would insure the continued use of these linkages. In undeveloped areas, the City should condition any future developers adjacent to the Edison easement to implement and maintain the trail.

C. **PURCHASE:**

Although purchase of easements is the least preferred alternative, due to cost, it may prove necessary on private parcels where development has already occurred and where there is little hope of re-development that would allow the City to condition the implementation of the trail.

The City can explore three options when considering a purchase:

1. Fee Simple Acquisition (including condemnation);
2. Easement Lease with option to buy; or
3. Trade.

With the first two options, the City will be limited to the funds available through the general fund budget. However, outside sources of funding, although challenging to pursue, are very worthwhile. The following are ideas for supplemental funding through State, Local and Federal sources:

■ **State and Local Funding Sources:**

1. **Developer Fees**

The California Planning, Zoning and Development Laws (Section 66477, Quimby Act) allow a City

to collect fees from developers in exchange for the rights to develop a property. These can be "in lieu" of the required dedications of open space or as the County of Riverside currently does, a surcharge (\$50) for each new dwelling that is used for trail implementation.

2. **Trail Fees**

The City could consider the establishment of a pleasure riding tax in accordance with the provisions of Government Code Section 53940 et seq. in order to finance the acquisition, construction and maintenance of the trail system. The monies collected from this tax must be placed in a special fund, and can only be used to defray the reasonable expense of collecting such tax and for the maintenance, acquisition and construction of trails for equestrians and bicyclists. These funds may be used as local matching monies for any federal or state grant for such purposes or for matching funds in the acquisition and development of a federal or state trails project.

3. **Bonds and Initiatives**

Locally applied bond issues or land use control propositions can be used to further the goals of trails and park land development. These instruments may take the form of ballot measures that are drafted by agencies and/or citizenry, or alternatively as bond acts drafted by state legislators for passage in the California State Assembly and Senate. Their purposes include financing acquisition, designating specific land areas for conservation, or setting basic land use policies. The success of any local bond measure depends on active local backing. In addition, if it requires levying additional property taxes, voters must approve it by a two-thirds majority.

4. **Assessment Districts**

A special assessment is a charge imposed on a particular real property for a local public improvement of direct benefit to that property. The rationale of special assessment is that the assessed property has received a special benefit over and above that received by the general public. The Landscaping and Lighting Act of 1972 enables assessments to be imposed in order to finance acquisition of land for parks, recreation and open space as well as installation and maintenance of those facilities. Trails are considered to be applicable uses for the funds received from these assessment districts.

5. **Bicycle Lane Account (BLA)**

The California State Department of Transportation (Caltrans) annually sets aside \$360,000 for bicycle projects throughout the state. Available as grants to those cities or counties who currently have bike plans, the emphasis tends to be on projects which benefit bicycling for commute purposes. The criteria for projects is somewhat flexible, and monies have been appropriated for bicycle education, as well as lane construction. This would be a marginal source of funds for the City of Orange Trails System, not only due to relatively small appropriations, but because funding has a commute purpose priority.

6. **Habitat Conservation Fund**

As directed by the Wildlife Protection Act of 1990 (created by Proposition 117), the State of California Department of Parks and Recreation Department administers 50% matching grant funds to local agencies to provide opportunities for people to appreciate and visit natural environments and enjoy unique and varied fish and wildlife resources. \$ 500,000 will be distributed annually for trails purposes between the years 1993-2020. The Santiago Creek trail would be an excellent candidate for these funds, since it "brings urban residents into park and wildlife areas", serves a large segment of the community and has regional significance. The next deadline is summer of 1993. Contact State Parks for additional information (619) 653-7423.

7. **California Wildlife Coastal and Parkland Conservation Bond Act 1988 (Proposition 70)**

This five million dollar competitive grant program for acquisition and development of lands and rights-of-way for bicycles, horseback riding, hiking, and handicapped access trails is administered by the California Department of Parks and Recreation Department. Priority consideration is given to open space areas with ready access to large numbers of the immediate population. Facilities may include trails, staging areas, restrooms, bridges and fencing.

8. **Environmental Enhancement and Mitigation Demonstration Program Fund (AB 471)**

The purpose of this program is to provide grants to local, state and federal agencies and non-profit entities to mitigate the environmental impact of modified or new transportation facilities. Ten million dollars will be given annually until the year 1999. The Roadside Recreational category of this program allows for projects providing for the acquisition and /or development of roadside recreational opportunities, including roadside rests, scenic overlooks, trails, trailheads and parks. Trails adjacent to the proposed Eastern Transportation Corridor would be likely candidates for this

funding. The Resources Agency recommends to the California Transportation Commission which applicants should receive the allocated money. Contact: (916) 653-5674

9. **California Conservation Corps (CCC)**

The California Conservation Corps (CCC) offers an added opportunity for State-funded implementation of the trail system. The CCC program provides socially beneficial work combining job skills and contact with nature for young people between the ages of 18 and 23 and is ideally suited to the work of trail development and maintenance. The CCC provides the planning and labor costs on a 2-to-1 matching basis with the applicant agency providing the tools and materials as their share of the costs.

10. **Fund Raising Special Events**

The City, with the assistance of homeowner's association organizations such as the Orange Park Acres Group, could sponsor a special event such as a trail ride or walk-a-thon. This could take place along a portion of the trail that has safe passage, but is in need of improvement or along completed segments adjacent to segments that need acquisition or development. Local merchants who derive business from the equestrian community (tack and feed) or bicycle stores could also help sponsor this event.

Events of this kind help to generate revenues as well as building support for the further development and continued maintenance of the trail system. The San Joaquin River Parkway and Conservation Trust in Fresno, California, organizes a variety of annual events to raise money for the Trust. One of the most successful events was "Evening on the River," which featured dinner and entertainment. This event raised approximately \$10,000. Another popular event is a bike rally, featuring a variety of distance rides, which raises public awareness of the Parkway in addition to money. Sponsors are the key to a successful event. They can donate t-shirts, food, printing, and other services. Sponsors also help to defray event costs, thereby increasing the amount raised.

(Source: Economic Impacts of Protecting Rivers, Trails and Greenway Corridors, 1990)

■ **Federal Funding Sources**

1. **Land and Water Conservation Funds (LWCF)**

A U.S. Department of the Interior administered grant program for outdoor recreational facilities

development and open space acquisition, the LWCF is funnelled through the State Department of Parks and Recreation. The funds from this program will continue until 2015 with the annual allocation varying from year to year. California's appropriation in 1991 was two million and it is estimated that next year's allocation could be as high as six million. Grant money is distributed on a 50/50 local matching criteria for acquisition, development, operation and maintenance of public parks and recreation areas. The funds in the program are primarily designated to projects that stress multi-use. For instance walking and riding trails for birdwatching and nature study are Priority 1, whereas trails for hiking are given Priority 4, and equestrian trails are Priority 8. It may be very difficult, therefore, to get funding for purely riding and hiking trail without combining some wildlife interest. The projects may include development of bicycle trails, particularly where there are few developed trails or where a trail could be built to connect several parks. Next deadline: Fall 1992, contact (916) 653-7423.

2. **Federal Highway Trust Funds**

Two alternatives are available from this source for funding bicycling facilities:

- 1) Construction of bicycle and pedestrian facilities as part of any Federal Highway Aid project, as long as they are within the public right-of-way; and
- 2) Construction of such facilities independently of highway projects, but serving the highway corridors.

These funds are difficult to obtain, as they are very limited and the applicant must clearly show that the proposed bicycle facilities provide a viable commute alternative for automobile commuters.

3. **Community Development Block Grants (CDBGs)**

Administered by the U.S. Department of Housing and Urban Development, CDBGs are competitive, broad-purpose grants available to municipalities for projects of community-wide benefits. They can be used in a variety of ways, from financing new infrastructure, to co-funding urban redevelopment, to supporting community non-profit organizations. The Orange Trail System could be eligible for development funds from CDBGs where there is potential for incorporating the trail into the local grantmaking process as a cultural amenity, or where the project can be linked with urban renewal or economic development programs. Several rail-trails have shown documentable economic, historic and/or cultural merit and have been awarded CDBG funding. These include Seattle's Burke-Gilman Trail and a portion of the Baltimore and Annapolis Trail.

4. **Intermodal Surface Transportation Act of 1991 (ISTEA)**

Although the National Recreational Trails Fund Act also known as the Steven Symms National Recreational Trails Fund Act is the most widely known component of this act there are several other programs under ISTEA which have promise for trail funding.

- **National Highway System (NHS):** Under certain conditions money from this fund can be used for bicycle transportation and pedestrian walkway projects. Greenway or trail projects could also qualify for these funds if located next to a NHS highway.
- **Surface Transportation Program (STP):** This new block grant program can be used for facilities for bicyclist/pedestrians, and preservation of abandoned railway corridors including their conversion and use for pedestrian and bicycle trails.

Contact: Charlie Willard, (916) 653-8803.

5. **Steve Symms National Recreational Trails Fund Act of 1991**

This act was signed into law in December 1991. It provides authority for up to thirty million per year from federal fuel tax to accomplish trail projects. Moneys go directly to the states with one-half divided equally to each state and one-half based upon non-highway recreational fuel tax generation by each state, insuring that states with the most pressing trail demands will receive greater amounts. The funds are distributed for trails projects for: safety and environmental education, urban linkages, trails maintenance and rehabilitation, development of trail-side facilities, development of access facilities for persons with disabilities, and trail construction. Priority is given to projects which meet the demands of several recreational trail interests or utilize innovative shared-use policies among trail users (i.e. alternating periods for bicycling with hiking or bird-watching on the same trail). The act also stresses the importance of existing and local trails with maintenance and improvement of established trails given priority over new trail construction. Contact: Charlie Willard, (916) 653-8803.

■ **INSTALLATION RESPONSIBILITIES, PHASING, AND COST**

The trails defined in the previous section have been designated as existing trails or proposed trails that will be installed in two phases. The phasing plan has no specific time line, since the availability of funds for implementation is highly variable. Therefore, the phasing plan is provided only for the purpose of prioritizing implementation. The

installation and maintenance responsibility of each segment are detailed in the following pages, categorized as phase one, phase two or existing. A summary of the phasing plan is provided on page I-22 and a plan showing the phase one trails is at the rear of this document. Highest priority should be given to development of the following phase one trails and crossings:

1. Areas where development has already occurred and a trail has not been conditioned and installed as part of that development process. It would be appropriate for the City to allocate funds from the general fund or to seek outside funding to insure that those linkages are not lost. Many of these segments can be implemented as part of public works street widening programs.
2. Traffic crossings at the following critical locations:
 Traffic signals with pedestrian/equestrian demand buttons:
 Orange Park Boulevard and Santiago Canyon Road
 Orange Park Boulevard and Chapman Avenue
 Hewes Street and Santiago Canyon Road
 Hewes Street and Rancho Santiago Blvd
 Serrano Avenue and Loma Street
 Stop sign at Amapola Avenue and Ridgeline Drive
3. Santiago Canyon Road bi-level crossing option (bridge or underpass): Any future structure or land required for implementation will be funded by private citizens and will not require City funds. An alternative, which is not as safe but less costly than the bridge and underpass, would be an at grade mid-block signalized crossing which would be located southerly of the Santiago Canyon Road curve. The exact location of the crossing will be determined by field analysis to insure maximum safety of trail users and motorists. These options are provided because of an expressed interest of the Orange Park Acres Community to provide a means of crossing which would allow passage from central Orange Park Acres to the Villa Park Dam Recreation Area. The City of Orange will work closely with private citizens' groups to resolve the locational issues and funding.

Approximately ten miles of trail will be developed through the approval process. An individual wishing to construct on a parcel which has a designated segment of trail will be conditioned to implement the trail using the City adopted

standards and to maintain that trail. The designations of phase one or phase two will have no significance in this process since trails on these parcels will be implemented at the time of development regardless of their classification.

Following the phasing charts, an implementation cost analysis is provided for anticipated trail features. The entire trail system will encompass over 61 miles, with approximately 11 miles in phase one, 35 miles in phase two and 15 miles of existing trails. In the current times of limited city budgets and therefore a declining ability to provide the necessary recreational amenities to the community, non-profit groups, such as the Orange Park Acres Association, will be invaluable in obtaining funds for trail implementation and for coordinating volunteer construction of trail segments. It is understood that the completion of the trail system will only be possible through a partnership of involvement between the recreational community and the City.

Installation & Maintenance Responsibility

Phase One

See map at rear of document for trail number locations.

Descriptions of trail segments are contained on pages MP 6-12.

Trail Type A: Equestrian, Trail Bicycle & Hiking Type B: Trail Bicycle & Hiking

TRAIL #	TRAIL TYPE	MILES	IMPLEMENTATION RESPONSIBILITY	MAINTENANCE RESPONSIBILITY	REMARKS
6	A	.58	City*	OPA/City*	Located within Serrano Ave. R.O.W.
9	A	.19	City*	OPA/City*	Easement acquired
10 ^{E,P1}	A	.01	Developer/Co./City*	County/City*	Creek crossing into Santiago Oaks Regional Park
21	B	.34	Villa Park	Villa Park	Work with Villa Park to install continuous Santiago Creek trail
23	B	.52	County/City*	County/City*	Located within Creek easement
26	A	.26	County/City*	OPA/County/City*	Within Creek easement (.04 miles needs improvement, .22 miles needs easement & installation)
37	A	.27	OPA/County ¹ /City*	OPA/County ¹ /City*	Currently passable with many street obstacles
38	A	.20	OPA/County ¹ /City*	OPA/County ¹ /City*	Currently passable with many street obstacles

Phase One

Trail Type A: Equestrian, Trail Bicycle & Hiking Type B: Trail Bicycle & Hiking

TRAIL #	TRAIL TYPE	MILES	IMPLEMENTATION RESPONSIBILITY	MAINTENANCE RESPONSIBILITY	REMARKS
39	A	.24	County ² /City*	OPA/County ² /City*	Install as part of Santiago Cyn. Road widening
41	A	.24	County ¹ /City*	County ¹ /City*	Easement and installation needed
47	A	.26	Developer/City*	Home.Assoc./City*	In open space easement
49	A	.30	OPA/County ¹	OPA/County ¹	Within Orange Park Blvd. R.O.W.
52 ^E	A	.08	Developer/OPA/City*	Home.Assoc/OPA/City*	Grade problems need attention
58	A	.12	OPA/City*	OPA/City*	Grade problems need attention
62	A	.17	OPA/County ¹	OPA/County ¹	.04 miles of easement needed, remainder is on street (Daniel)
64	A	.11	OPA/County ¹	OPA/County ¹	Within Orange Park Blvd. R.O.W.
65	A	.18	OPA/County ²	OPA/County ²	Within Chapman Ave. R.O.W.
66	A	.07	Developer/City*	OPA/City*	Pending development
67	A	.21	OPA/City*	OPA/City*	Easement in place

Phase One

Trail Type A: Equestrian, Trail Bicycle & Hiking Type B: Trail Bicycle & Hiking

TRAIL #	TRAIL TYPE	MILES	IMPLEMENTATION RESPONSIBILITY	MAINTENANCE RESPONSIBILITY	REMARKS
70 ^E	A	.30	Homeowners' Assoc.	Homeowners' Assoc.	Maintained by Homeowners' Association
74	A	.19	Developer	OPA/City*	In negotiations with developer
88 ^{P2}	B	.26	County ¹ /City*	County ¹ /City*	Within Santiago Cyn. Road R.O.W. and Flood Control Basin
90	B	.86	O.C.Water Dist./City ^{2,*}	O.C.Water Dist./City ^{2,*}	Already slated for installation
91	B	.53	O.C.Water Dist./City ^{2,*}	O.C.Water Dist./City ^{2,*}	Already slated for installation
92	B	1.22	City*	City*	On street
94	B	2.7	County/City*	County/City*	Within Creek easement
97	B	.85	County/City*	County/City*	Railroad easement
TOTAL		11.26			

* The City will be assisted by others including non-profit groups & volunteers.

1 Currently in the County, but it is anticipated that this trail will ultimately be within the city limits of Orange

2 Portions of this trail are currently within the County, but it is anticipated that this trail will ultimately be within the city limits of Orange.

Phase Two

Trail Type A: Equestrian, Trail Bicycle & Hiking Type B: Trail Bicycle & Hiking

TRAIL #	TRAIL TYPE	MILES	IMPLEMENTATION RESPONSIBILITY	MAINTENANCE RESPONSIBILITY	REMARKS
1	A	.33	Developer/City*	Home. Assoc./City*	On Edison easement
2	A	.27	Developer/City*	Home. Assoc./City*	On Edison easement
3	A	1.61	Developer/City*	Home. Assoc./City*	On Edison easement
3A	B	5.16	County ^{2,3} /City*	County ^{2,3} /City*	On Edison easement
4	A	.90	Developer	Homeowners' Assoc.	Conditioned in Tract 13125
5	A	.19	Developer/City*	Home. Assoc./City*	Located within Loma St. R.O.W.
7	A	.75	Developer	Homeowners' Assoc.	Conditioned in Tract 13125
10 ^{E,P1}	A	.52	Developer/City*	Home. Assoc./City*	Trails within City limits, does not include trails within Sant. Oaks Park
11	A	1.36	Developer	Homeowners' Assoc.	Conditioned in Tract 14359
12	A	.46	Developer	Homeowners' Assoc.	To be conditioned in future development
15	A	.87	Developer	Homeowners' Assoc.	Conditioned in Tract 14359

Phase Two

Trail Type A: Equestrian, Trail Bicycle & Hiking Type B: Trail Bicycle & Hiking

TRAIL #	TRAIL TYPE	MILES	IMPLEMENTATION RESPONSIBILITY	MAINTENANCE RESPONSIBILITY	REMARKS
18	A	.51	Developer	Homeowners' Assoc.	To be conditioned in future development
22	A	1.18	Developer/Co. ¹ /City	HomeAssoc/Co. ¹ /City*	Northern diversion basin trail
27	A	.28	County/City*	OPA/County/City*	Within Loma St. R.O.W. and designated open space
28	A	.22	County	OPA/County	Within Santiago Canyon Road R.O.W. and designated open space
30	A	.42	Developer	Homeowners' Assoc.	To be conditioned in future development
30A	A	.03	City*	OPA/City*	Small section in front of existing residence on Santiago Canyon Road
31	A	.43	Developer	Homeowners' Assoc.	To be installed in future development
32	A	.41	Developer	Homeowners' Assoc.	To be conditioned in future development
33	A	.42	Developer	OPA/Home. Assoc.	Conditioned as part of Tract 13833
42	A	3.17	County	County	Wier Canyon Trail to city limits
44	A	.09	Developer/City*	Home. Assoc./City*	In open space easement, conditioned in Tracts 8964, 8809, 9608

Phase Two

Trail Type A: Equestrian, Trail Bicycle & Hiking Type B: Trail Bicycle & Hiking

TRAIL #	TRAIL TYPE	MILES	IMPLEMENTATION RESPONSIBILITY	MAINTENANCE RESPONSIBILITY	REMARKS
45	A	.68	Developer/City*	Home. Assoc./City*	In open space easement conditioned in Tract 13529
46	A	.19	Developer	OPA/City*	Tunnel & approach under Crawford Canyon, conditioned in Tract 13529
48	A	.18	County ¹ /OPA/City*	OPA	Within Meads R.O.W., needs expansion in places
50	A	.29	Developer	Homeowners' Assoc.	Conditioned in Tract 13913
51	A	1.42	County	County	Through Villa Park & Irvine Regional Park
55	A	.68	OPA/City*	OPA	Current trail is passable but needs some improvement
56 ^E	A	.03	Developer/OPA	Home. Assoc./OPA	Small segment on Amapola near Ridgeline
60	B	.44	City*	City*	Follows street in areas - bicycle path
61	A	1.87	County	County	El Modena Open Space
63 ^E	A	.06	OPA/City*	OPA	Majority of trail is already to standards
68 ^E	A	.05	OPA/City*	OPA	Vacant lot needs trail improvement

Phase Two

Trail Type A: Equestrian, Trail Bicycle & Hiking Type B: Trail Bicycle & Hiking

TRAIL #	TRAIL TYPE	MILES	IMPLEMENTATION RESPONSIBILITY	MAINTENANCE RESPONSIBILITY	REMARKS
71	A	.81	Homeowners' Assoc.	Homeowners' Assoc.	Passable but needs improvements
72	A	.37	Homeowners' Assoc.	Homeowners' Assoc.	Passable but needs improvements
78	A	.78	City*	City*	Within Jamboree R.O.W. - Bicycle path planned within Assessment District
79	A	.31	County/City*	County/Home. Assoc.	On City/County boundary
80	A	.48	County	County	Adjacent to Peters Canyon Park within Assessment District
81	A	.33	County	County	Adjacent to Peters Canyon Park within Assessment District
82	A	.99	County	County	Peters Canyon Park within Assessment District
83	A	.14	Developer	Home.Assoc./City*	In Jamboree R.O.W. & Assessment Dist. To be conditioned in future development
84	A	.77	County	County	Peters Canyon Park, to City limits, in Assessment District
85	A	.76	Developer	Homeowners' Assoc.	To be conditioned in future development Within Assessment District

Phase Two

Trail Type A: Equestrian, Trail Bicycle & Hiking Type B: Trail Bicycle & Hiking

TRAIL #	TRAIL TYPE	MILES	IMPLEMENTATION RESPONSIBILITY	MAINTENANCE RESPONSIBILITY	REMARKS
86	A	.51	County	County	Irvine Regional Park
88 ^{P1}	B	.42	County ¹ /City*	County ¹ /City*	South side of Santiago Canyon Road R.O.W.
89	B	.30	County/City*	County/City*	Abandoned railroad R.O.W.
93	B	1.24	County/City*	County/City*	Alternate route - bicycle path
95	B	.55	County/City*	County/City*	Abandoned railroad R.O.W. & segment on Wanda surrounded by Villa Park
96	B	.50	City*	City* - on street	Alternate route - stripe and sign on street
96A	B	.34	County/City*	County/City*	Alternate route (Palmyra at the Railroad to Prospect)
TOTAL		35.07			

* The City will be assisted by others including non-profit groups & volunteers.

1 Currently in the County, but it is anticipated that this trail will ultimately be within the city limits of Orange.

2 Portions of this trail are currently within the County, but it is anticipated that this trail will ultimately be within the city limits of Orange.

3 Some segments in adjacent jurisdictions.

P1 Sections of this trail are also in Phase I

E Sections of this trail are existing

Existing Trails

Trail Type A: Equestrian, Trail Bicycle & Hiking Type B: Trail Bicycle & Hiking

TRAIL #	TRAIL TYPE	MILES	IMPLEMENTATION RESPONSIBILITY	MAINTENANCE RESPONSIBILITY	REMARKS
8	A	.24	Fully improved	Homeowners' Assoc.	South of Serrano - Wilderness Develop.
10 ^{P1}	A	.11	Fully improved	County	Santiago Oaks Regional Park
10 ^{P1}	A	.54	County ⁴	County	Santiago Oaks Regional Park
13	A	1.0	County ⁴	County	Santiago Oaks Regional Park
14	A	.65	County ⁴	County	Santiago Oaks Regional Park
16	A	.21	County ⁴ /Anaheim	County/Anaheim	Portions in Santiago Oaks Reg.Park
17	A	.77	County ⁴	County	Portions in Santiago Oaks Reg.Park
19	A	1.18	County ⁴ /Anaheim	County/Anaheim	Portions in Santiago Oaks Reg.Park
20	A	.15	County ⁴ /Anaheim	County/Anaheim	Anaheim Hills trail
24	A	.14	Fully improved	OPA	Currently maintained by OPA

Existing Trails

Trail Type A: Equestrian, Trail Bicycle & Hiking Type B: Trail Bicycle & Hiking

TRAIL #	TRAIL TYPE	MILES	IMPLEMENTATION RESPONSIBILITY	MAINTENANCE RESPONSIBILITY	REMARKS
25	A	.32	Fully improved	OPA/City*	Currently maintained by OPA & 500' by the City
29	A	.49	Fully improved	OPA	Currently maintained by OPA
34	A	.66	Fully improved	OPA	Currently maintained by OPA
34B	A	.57	Fully improved	OPA	Currently maintained by OPA
35	A	.33	Fully improved	OPA	Currently maintained by OPA
36	A	.24	Fully improved	OPA	Currently maintained by OPA
40	A	.25	Fully improved	County - on street	On Lolita Street
52 ^{P1,P2}	A	.79	Fully improved	OPA/Home. Assoc.	Currently maintained by OPA
53	A	1.65	Fully improved	OPA/Home. Assoc.	Currently maintained by OPA & Homeowners' Assoc.
54	A	.29	Fully improved	OPA	
56 ^{P2}	A	.09	Fully improved	OPA	

Existing Trails

Trail Type A: Equestrian, Trail Bicycle & Hiking Type B: Trail Bicycle & Hiking

TRAIL #	TRAIL TYPE	MILES	IMPLEMENTATION RESPONSIBILITY	MAINTENANCE RESPONSIBILITY	REMARKS
57	A	.34	Fully improved	OPA	To be relocated with street widening
59	A	1.42	County ⁴	County	County trail in Diversion Basin
63 ^{P2}	A	.11	Fully improved	OPA	Currently maintained by OPA
68 ^{P2}	A	.49	Fully improved	OPA/Home. Assoc.	Currently maintained by OPA
69	A	.17	Fully improved	Homeowners' Assoc.	Maintained by Homeowners' Assoc.
70 ^{P2}	A	.05	Fully improved	Homeowners' Assoc.	Currently maint. by Homeowners' Assoc.
73	A	.18	Fully improved	OPA	
75	A	1.2	Fully improved	Homeowners' Assoc.	Currently maintained by OPA
77	A	.39	Fully improved	OPA/City*	Maintained by Homeowners' Assoc.
TOTAL		15.02			

* The City will be assisted by others including non-profit groups & volunteers.

P1 Sections of this trail are also in Phase I

P2. Sections of this trail are also in Phase II

4 Trail not fully improved per City of Orange Standards

Summary of Phasing Plan

	Trail Type		All Trails
	A Multipurpose: Equestrian, non-motorized trail bikes & hiking	B Non-motorized trail bikes & hiking	
Phase One Trails	3.98	7.28	11.26
Phase Two Trails	26.12	8.95	35.07
Existing Trails	15.02	0	15.02
TOTAL	45.12	16.23	61.35

Implementation Costs

Per Mile ¹

Multi-purpose trail Compacted dirt trail tread ² (with no gradient problems)	\$ 25,000 - \$ 45,000 ³
Multi-purpose trail Compacted dirt trail tread (with gradient problems)	\$ 40,000 - \$ 65,000
Dual-purpose trail Compacted dirt trail tread ² (with no gradient problems)	\$ 45,000 - \$ 70,000 ³
Dual-purpose trail Compacted dirt trail tread (with gradient problems)	\$ 70,000 - \$ 100,000
Signage - Trail markers (18 per mile)	\$ 360
Fencing ⁴	\$ 42,240
Bridge (pre-fabricated, does not include land)	\$ 413,000 - \$ 680,000
Staging Areas	\$ 150,000 - \$ 300,000
Rest areas (with restrooms)	\$ 50,000 - \$ 100,000

Per Mile¹

Rest areas (without restrooms)	\$ 15,000 - \$ 25,000
Demand Signals	\$ 1,100
Trail Head Sign	\$ 3,000
Miscellaneous	\$ 200
Water Bars (where needed)	
Warning Signs	

¹ The trail system will comprise approximately 11 miles in phase one and 35 miles in phase two.

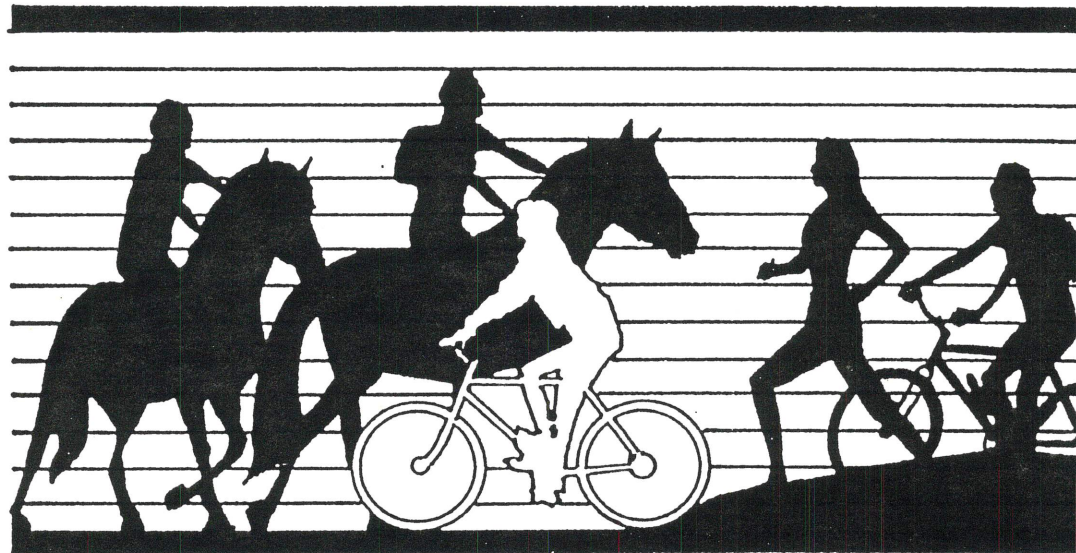
² Cost can vary considerably depending on subgrade work and soil stabilization. Cost figures above are based on ideal situations not requiring the use of imported soils.

³ Using jail crews the cost could be as low as \$7,000 - \$10,000 per mile

⁴ The estimate per mile is for continuous fencing of the trail on one side using the fence detailed in the standards. In most areas, a continuous fence will not be necessary.

The following cost estimate sources and assumptions were used in this section.

- The Santa Ana River Corridor Trail System Master Plan, EDAW & 2M Associates 1990.
- Financing & Implementing The Bay Trail, 1989.
- Economic Impacts of Protecting Rivers & Trails, 1990.
- County of Riverside Road Dept. Estimates, 1989.
- City of Riverside Public Works Estimates, 1990.
- Corps of Engineers Estimates, 1988.
- USFS - San Bernardino National Forest Estimates, 1990.
- Cost Data for Landscape Construction, Kerr Assoc., 1989.



MANAGEMENT/MAINTENANCE

Management/Maintenance Plan

General Plan Adoption:

The Recreation Trails Master Plan is intended to become a portion of the Open Space & Conservation Element of the General Plan and thereby have the enforcement capabilities to allow trails to be conditioned as a part of future developments. Once adopted, the City should inform any prospective developers who's property contains a designated trail that the City will require a dedicated easement, and the installation of the trail per the adopted trail standards, as a condition of approval for their development. Although the master plan delineates specific layouts for the trails, the location of the trail can be fine tuned on individual parcels to accommodate specific development desires. However, the exit and entry points on the site must adhere to the adopted master plan alignment in order to insure continuity of the trail system.

Ordinance:

A City ordinance should be implemented to restrict undesirable conduct on the trail system. It can be anticipated that the Police Department will respond to noise complaints, unwanted gatherings, and general dangerous activities on the trails. However, the enforcement may not be covered by Penal Code 415 (Disturbing the Peace). The ordinance should follow restrictions of prohibited acts found in the "Parks Violations", Municipal Code 12.48.020.

The city should also conduct a legal review for the application of California Vehicle Code, section 23127, related to the required marking of the trails for enforcement of "unauthorized motor vehicle" use of the trail. In addition, the City should also conduct a legal review for the application of California Vehicle Code section 21113, related to "Public Grounds", and determine whether the section will apply to "paths" and "driveways", "or any property under the direct control of the legislative body of a municipality."

Encroachments:

All parties that have encroached on the designated trail should be immediately notified that removal of these obstructions is required. The encroachments pose a liability risk to the city and to the encroacher, therefore their immediate correction is necessary.

Trails Coordinator Position:

Once the master plan is adopted, a City of Orange employee should be designated as the Trails Coordinator to oversee the implementation and continued maintenance of the trail system. This Trails Coordinator will be responsible for inspecting newly implemented trails to insure conformance with trail standards and should inspect all installed trails a minimum of three times per year to determine each trail's condition. Where corrective action is needed, crews should be dispatched to perform the necessary work which will include clearing of vegetation, weed control, repair of drainage or erosion problems, replacement of stolen, damaged, or obsolete signs and repair of damaged fencing. It is anticipated that the Trails Coordinator position will be a full time position in the Community Services Department.

Trails Patrol:

It is foreseen that patrol of the trails will take place on horseback or on a trail bike. In addition to the three time a year review by maintenance staff, regular patrol of trails, especially in high use areas, will be necessary. The Santa Ana River Corridor Trails Plan calls for two full time maintenance positions and one ranger patrol position in Orange County, approximately 28 miles. High use areas in Orange County between the Ocean and Anaheim Stadium will be patrolled by two additional rangers.

Trail Log:

The master plan includes a trail evaluation log that contains documentation of existing trail segments and a record of site conditions on proposed segments. This log recorded each segment with photographs and an analysis of gradient, tread, width and fencing as well as any special conditions of the existing and proposed trail segments.

Once new trail segments are installed the log should be updated, indicating the date of installation and recording all conditions of the trail. A photograph of the installed trail should be added to the photos already in the log for this segment. This log should be updated by the Trails Coordinator every time a change occurs on a trail segment, to insure that it always contains a record of the trail's current condition.

The trail safety checklist should be prepared at the time of the tri-annual evaluation. Using the trail standards as a guide, the trails coordinator should fill out the form indicating both satisfactory and unsatisfactory conditions.

Any unsatisfactory conditions should be promptly corrected and the corrective action noted on the form. An example of a blank form and a sample form are provided at the end of this section.

The use of the trail safety checklist is a critical link in the process of accident prevention. The checklist is a practical way to prevent foreseeable accidents because it prompts employees and supervisors to systematically inspect for hazardous conditions and remedy these conditions before an accident occurs.

The safety checklist is a visible way to translate the safety policy of the City into action and hold field employees and supervisors accountable for their performance. The checklist also becomes a vehicle for reporting hazardous conditions that represent the potential for serious injury to trail users. The safety checklist and inspection schedule can also be used to help document a city's awareness and commitment to accident prevention. In litigation, the safety checklist can serve as evidence of a public agency's intentions to identify and remedy hazardous conditions.

Access Control:

Although the trail system will have many points of access, uncontrolled access is a major concern of neighbors abutting the trail. Trail users may wander off the trail in areas where it is not desirable, including private property and hazardous situations such as steep slopes and drainage interfaces. In providing for trails, the City should seek to insure that the rights of residents and property owners, including their peace, privacy, safety, health and property, are not jeopardized by unmanaged, inappropriate, or irresponsible public use. With the use of signage the City can direct access to the locations designated in this plan.

Motorized Vehicles Control:

Except for authorized maintenance and emergency vehicle access needs, the trail system is for non-motorized use only. Trail entry points will be designed to discourage motorized vehicle use. The trail standards detail signage (Detail 18) and barriers (Details 16 & 20) which will help restrict use by motorized vehicles. However, regular patrol of the trail will be one of the most effective methods of deterring unwanted motorized use.

Handicapped Usage:

The trail standards have been designed to accommodate handicapped users on a primary loop system that accesses a full range of recreational opportunities. The segments that are accessible to handicap users have a gradient that

does not exceed 8.33%, per the guidance of the Americans with Disabilities Act of 1990 (ADA) and the State of California requirements (Title 24). Where segments are between 5% and 8.33% flat areas will be provided every 30'. The implementation of trails in the system will be phased due to City budget limitations to fund the entire construction and maintenance. However, as segments are implemented and maintained, emphasis will be given to the trails designated as "accessible to people with disabilities".

Restricting motorcycle access yet allowing for wheel chair passage is problematic. In the trail standards, Detail 20 is designed to restrict motorcycle entrance to the trail yet allow wheelchair access. Although this detail does not meet the State of California width standards, it does meet the requirements of Whole Access and is adequate to allow for the passage of wheelchairs. If the openings were expanded to State standards, motorcycles would also be able to access the trail through the "barrier".

Trail Closures:

Some trail sections may need to be closed due to hazardous conditions. These may occur when heavy rains cause trail washouts or when landslides block the use of the trail. Construction on or adjacent to the trail could also force the closure of the trail because of safety concerns. These conditions should be corrected as soon as possible and the trail reopened to use by the public. Any unsatisfactory condition and corrective action should be noted on the trail safety checklist.

Immediately after rains, it will be imperative that the City inspect the wet stream crossings on Santiago Creek to determine if closure of the crossings are necessary. Should it be necessary, the closure should be conspicuously posted until the crossings are determined to be again safe.

When a trail will be closed due to construction, the City should advise the individuals performing the construction (at the time of plan check) of the following:

1. The area must be posted for two weeks prior to the closure with notice of the dates that the trail will be closed and advising of an alternate route. The signage should also indicate the expected date of trail reopening. The City should work with the applicant to design an alternate route to insure safety and convenience to recreationists. In order to reduce the amount of time that the trail is closed, the City should specify the date that the trail must be reopened. Prior to reopening, City staff should inspect the trail to insure that the trail is safe and ready for use.

2. The closed area must be clearly marked from all possible points of access. Special care must be taken to use signing materials that are compatible with equestrians and do not alarm or frighten horses (ex: Don't use tapes which can flutter in the breeze).

Trail Brochure:

A simple brochure should be prepared and distributed to trail users. It can be distributed through tack and feed stores, cycle stores, staging areas and at the City of Orange Community Service Department. The trail map should designate all trails by their assigned trail number, which will also appear on trail markers. Rest areas, staging areas, police stations, fire stations and hospitals should be indicated. Points of interest such as historical structures, unique vegetation, wildlife habitats and view opportunities should also be noted. This brochure should contain a map of completed and proposed sections of the system and also should include:

1. Standard trail etiquette (provided at the end of this section),
2. Emergency contact phone numbers (Police, Fire, & Sheriff), and
3. Information on how the public can help to implement the remainder of the trail system (ex: donations, public involvement, volunteer groups).

Daylight Hour Trail Use:

Evening use of the trail will be prohibited. Trail signage will indicate this restriction. The evening closure serves several purposes:

1. Reduces the impact of the trail on neighboring private properties by limiting hours of use, and
2. Allows law enforcement personnel to take corrective action against violators on the trail who may have criminal intent.

Volunteer Management:

In October of 1981, The Orange Park Acres Association, Inc. entered into an agreement with the City to maintain many miles of trails throughout the City. In addition, they continue to support the development of new trails through their time and financial contributions. Groups such as this are critical to the full development of the trail

system and its continued maintenance. In addition to this group, the city should explore "trail adoption" programs, inviting service organizations to undertake patrol and maintenance of other segments. The Orange Park Acres Association, with assistance from the City could also organize a "trail maintenance day" where large numbers of citizens could be called into assistance for a yearly clean up of the trail system.

Homeowner Association Management:

Although the City of Orange is ultimately responsible for the trail, the City should continue to encourage homeowners' associations to become active participants in the maintenance and patrol of trail segments within their communities and outside. Whenever possible, the city should seek to have any existing homeowners' association assume the liability for existing trails in their community by obtaining an insurance policy which contains a "hold harmless clause" shielding the City from claims that arise on these segments. On any new trail segments the City should require the developer to form a homeowners' association to insure the regular maintenance of the trail, per the trail standards, and to require that the homeowners' association carry a trails liability insurance policy.

Because the trail system is designed to be multi-use, formal agreements should be adopted between private equestrian communities to designate trails that appear on the Master Plan within their communities as multi-purpose. It will be understood in the agreement that all members of the public will be entitled to use the trails.

Currently, the homeowner's associations of Cowan Heights, Broadmoor, Pheasant Run, Wilderness and High Horse Trails have been very successful in maintaining and monitoring the trails in their areas.

Trails in Adjacent Jurisdictions:

The trails identified in the master plan for the City of Orange connect with trails in the Cities of Anaheim, Tustin, Villa Park and with the County of Orange. Three trail segments in adjacent jurisdictions are critical to the continuity of the Orange trail system because of their location. Because of their importance, the City of Orange should undertake immediate discussions with Villa Park, Santa Ana, and the County to insure that these connections are not lost. The trail segments are:

- Santiago Creek trail north of Santiago Canyon Road in the City of Villa Park,
- Santiago Creek trail west of Hart Park which connects to the Santa Ana River, and
- Villa Park dam crossing in the County of Orange.

Maintenance Costs

The following figures are estimated annual & monthly maintenance expenditures per mile of trail. The trail system at completion will comprise approximately 61 miles.

	Cost per mile	Completed Trail System
Salaries	\$ 4,000 ¹	\$ 244,000
Equipment	\$ 600 ²	\$ 36,600
Materials & Supplies	\$ 300 ²	\$ 18,300
Total Annual Operation & Maintenance Costs	\$ 4,900	\$ 298,900
Monthly	\$ 408	\$ 24,900

Figures based on data from:

¹ Economic Impacts of Protecting Rivers & Trails

² City of Riverside, Parks Superintendent, Terry Nielsen (1991).

Trail Etiquette

1. Reckless/negligent use on all trails will be prohibited. All persons shall ride or operate at a safe, controlled speed and in a responsible manner. Excessive speed and reckless/negligent operation are prohibited.
2. Control your horse or bike. Be alert and attentive.
3. Keep to the right of the trail.
4. Pick up litter when you find it, even if its not yours.
5. In soggy areas, try to avoid wet areas in order to diminish ruts from forming.
6. Remain only on designated trails. Respect closures and do not trespass on private property. Obey all directional and instructional signs.
7. Safety helmets are recommended for mountain bikers and equestrians.
8. Yielding: Except as dictated by special conditions, bikers shall yield to both pedestrians and equestrians, and pedestrians shall yield to equestrians. Equestrian shall be aware and considerate of bikers and pedestrians.
9. Make known your approach well in advance. A friendly greeting is considerate and works well; don't startle others. Show your respect when passing others by slowing down or even stopping. Anticipate that other trail users may be around corners or in blind spots.
10. Never spook animals. All animals are startled by an unannounced approach, sudden movements, or loud noise. This can be dangerous for you, for others, and for the animals. Give animals extra room and time to adjust to you.
11. Motorized vehicles are prohibited.

Trail Safety Checklist

Trail # _____
 Date: _____
 Evaluator: _____

	Satisfactory	Unsatisfactory	Comments
<u>Drainage</u>			
<u>Tread</u>			
<u>Trail Signs</u>			
<u>Weeds</u>			
<u>Vegetation</u>			
<u>Water Bars</u>			
<u>Culverts</u>			
<u>Wet Crossings</u>			
<u>Fencing</u>			
<u>Entry Barriers</u>			
<u>Bridges/Underpass</u>			
<u>Intersection Signals</u>			
<u>Warning Signs</u>			

Comments:

Corrected:	Date:	By:
Corrected:	Date:	By:
Corrected:	Date:	By:
Corrected:	Date:	By:
Corrected:	Date:	By:
Corrected:	Date:	By:
Corrected:	Date:	By:
Corrected:	Date:	By:

Trail Safety Checklist

Trail # 37
 Date: 3-5-91
 Evaluator: JEFF SMITH

	Satisfactory	Unsatisfactory	Comments
Drainage	✓		
Tread	✓		
Trail Signs		✓	U-1
Weeds	✓		
Vegetation		✓	U-2
Water Bars	✓		
Culverts	✓		
Wet Crossings	✓		
Fencing	✓		
Entry Barriers	✓		
Bridges/Underpass	✓		
Intersection Signals	✓		
Warning Signs	✓		

Comments: U-1 3 TRAIL SIGNS MISSING - MEADS & RANDALL

Corrected: U-2 Date: 3/10/92 By: J. SMITH
BRANCH FROM TREE - LOW CLEARANCE
MEADS NEAR SANTIAGO

Corrected: U-2 Date: 3/10/92 By: J. SMITH

Corrected: _____ Date: _____ By: _____

Corrected: _____ Date: _____ By: _____

Corrected: _____ Date: _____ By: _____

Corrected: _____ Date: _____ By: _____

Corrected: _____ Date: _____ By: _____

Liability Issues

■ SUMMARY

This section will address the nature and extent of the City's liability in regards to the multipurpose recreational trail system including:

1. trails owned by the City,
2. trails offered for dedication to the public and used by the public but not formally accepted by the City, and
3. trails used by the public but not formally offered for dedication to the public.

It will also address the nature and extent of the liability of private property owners for:

1. trails offered for dedication to the public and used by the public but not formally accepted by the City, and
2. trails used by the public but not offered for dedication to the public.

The last section will deal with steps the City and private property owners can take to reduce liability.

Trails Owned By the City:

The City is liable for injuries on it's property which are the result of a dangerous condition when the City knows or should have known of the dangerous conditions. This general rule applies to all City real property, including bicycle, hiking and equestrian trails, unless a statutory immunity can be found. Three statutory immunities have been located which reduce the City's liability:

1. The City is not liable for injuries caused by a **natural condition** of **unimproved** public property. However, the definition of "natural condition" has often been debated. This immunity is found in Section 831.2 of the California Tort Claims Act.
2. The City is not liable for injury caused by the condition of:
 - A) Unpaved roads or trails which provide access to recreational or scenic areas as long as the road is not a city street, or a county, state or federal road/highway;

- B) Any trail used as access to a recreational or scenic area; or
- C) Any paved trail which provides access to an unimproved property, so long as the City makes a reasonable attempt to provide adequate warning of the existence of any condition along the trail which constitutes a hazard to health or safety.

This immunity is found in Section 831.4 of the California Tort Claims Act.

- 3. The City is not liable to any person participating in hazardous recreational activities including animal riding, bicycle racing or jumping, as long as the City:
 - A) Warns of known dangerous conditions or other hazardous activities which are not an inherent part of the activities.
 - B) Does not charge a specific fee for allowing participation in the activities, such as an event fee.
 - C) Properly constructs and maintains in good repair any structure, recreational equipment or other substantial work of improvement utilized in the activities. The City must exercise "due care" in response to hazards. However, the issue of "reasonableness" does enter into what items require repair, weighing the probability and gravity of potential injury against the practicality and cost of protecting against the risk of such injury.

This immunity is found in Section 831.7 of the California Tort Claims Act.

The three sections referenced above, along with other relevant sections are discussed on pages three through eight.

Non-City Owned Trails Offered for Dedication But Not Accepted

Under present authority, there appears to be no liability on the City for injuries occurring on those trails which have been offered for dedication to the public and used by the public, but not formally accepted by the City. There also appears to be no basis, under current law, for attributing liability to the City for injuries occurring on those trails which have not been offered for dedication but have been used by the public.

Privately Owned Trails

Section 846 of the Civil Code, known as the Recreational Use Statute addresses liabilities on private land. Private landowners are exempt from liability for injuries that occur on trails for recreational purposes on their land as long as the landowner:

1. was **not** willful or malicious in their actions,
2. was **not** paid a fee by the recreationist to use their property (not including compensation for the granting of an easement),
3. did **not** expressly invite recreationist to their property.

Immunity from injuries occurring on trails located on private property may also extend to situations where:

1. The property owner offered the trails for dedication to the public and use by the public, but it has not been formally accepted by the City,
2. Trails were not offered to the public but which have been used by the public, and
3. On adjoining properties the injuries resulted from or were caused by trespass or as a result of activities started or taking place within the trail or arising out of the activities of third parties.

In addition property owners may also feel some safety in the knowledge that in allowing the public to use their property for a trail, they run no risk of creating a prescriptive easement, if they follow particular statutory procedures.

In the following analysis, the applicable sections of the California Tort Claims Act and Section 846 of the Civil Code are addressed in more detail.

■ ANALYSIS

**Government Code Section 810 et seq.
The California Tort Claims Act**

The sections of the California Tort Claims Act which apply to trail liability (831.2, 831.25, 831.4, 831.5, & 831.7), including Definitions (830) and Trivial defect.(830.2) are provided in Appendix B. The following analysis is extracted from a 1992 review of current case law, a November 1988 Opinion of the Legislative Counsel of California, and a 1985 memo of Jay G. Vickers, Deputy Counsel for the County of Riverside:

It is generally concluded that the City is liable for a dangerous condition on its property **unless** some statutory immunity is found. The County Counsel found the following:

Natural Condition of Unimproved Public Property (Section 831.2)

Neither a public entity nor a public employee is liable for an injury caused by a natural condition of any unimproved public property, including but not limited to any natural condition of any lake, stream, bay, river or beach.

However, the apparent immunity created by Government Code Section 831.2 should be viewed with caution as there are two grey areas; the definition of "natural condition" and "unimproved". The scope of the immunity is not entirely clear; the act does not provide a precise standard for determining when, as the result of developmental activity, public property in its natural state ceases to be "unimproved." It appears that physical change in the condition of the property **at the specific location** of the injury will remove the immunity. However, the improvement of a portion of the property does not remove the immunity from the unimproved areas.

In Rendak v State (1971) 18 CA3d 286, 95 CR 665, the court held the state immune under Govt Code Section 831.2 from liability for wrongful death caused by an earthslide upon an unimproved portion of a state-operated beach. While there were some improvements elsewhere on the beach property (e.g., parking facilities, rest rooms, garbage disposal facilities, campfire sites), none were located in the immediate vicinity of the accident. Affirming a judgement of nonsuit, the court rejected the plaintiff's argument that the presence of **some** improvements removed the **entire** park area from the immunity.

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In Fuller v State of California (1975) 51 Cal. App. 3d 926, the Court of Appeal affirmed the trial court's instructions on these issues and affirmed the trial court's allowing the jury to decide if the property was "unimproved" and in a "natural condition".

The real dangers of the apparent immunity stated in this section is demonstrated by the concurring opinion of Justice Kaus in Milligan v City of Long Beach, (1983) 34 Cal. 3d 829 (a case involving a defense asserted under 831.2). Justice Kaus states, based on Coates v Chinn (1958) 51 Cal. 2d 304, that as a matter of law:

"it is...undisputed, that the eucalyptus trees involved in this case were in contemplation of law, an artificial condition...[because]... 'eucalyptus trees are not native to California [and] were planted by man.'"

In Coates v Chinn, a unanimous Supreme Court held that:

"...eucalyptus trees...constitute 'a non-natural or artificial condition' created on the land as distinguished from a 'natural condition' of the land, 'irrespective of whether they are harmful in themselves or become so because of the subsequent operation of natural forces'."

However, in Eben v State of California (1982), the court ruled that a submerged rock at or immediately near the shoreline of a lake was a "natural condition" even though the shoreline was under human control. The court also applied the "natural condition" to Kuykendall v State of California (1986) when an injury occurred from a rope attached to a tree on unimproved public property when the rope had been attached by an unknown third party.

Despite what appear to be inconsistencies, the cases do have a common logic. If the "unnatural condition" was the action of a party other than the defendant controlling government agency, the court has generally ruled that the agency is not responsible and is able to use the immunity of "natural conditions." However, if the "unnatural condition" is caused by the direct action of the agency, the plaintiff has prevailed.

The language of these authorities lead the County Counsel to conclude that

"while the Coates v Chinn analysis is simplistic, and Justice Kaus' reliance on it is questionable, they are representative of the lengths to which the courts will go to avoid granting immunity to public entities."

If this type of analysis is followed, then the City may be liable for injuries caused by any non-native life form along the easement.

The question of whether posting of warning signs changes "unimproved public property" to "improved property" is often another area of concern for public agencies. Cases have been litigated repeatedly and it has consistently been held that the posting does "not alter the unimproved nature of the property, as long as the warning neither increases the degree of danger on the property nor misleads the public about it."¹

In McCauley v City of San Diego (1987), the City prevailed when the plaintiff claimed his accident was caused by the combination of dangerous cliffs and the City's "ineffective & unprofessional" warning signs.

Nonetheless, when the hazard results from property improvements, Section 831.2 does not restrict liability if otherwise proper. This immunity should be read in connection with a corollary immunity granted by Govt Code Section 831.4 relating to unpaved access roads and recreational trails, for both sections reflect the same basic legislative policy. Additional case analysis for Section 831.2 is attached in Appendix B.

Unpaved Roads Used for Recreational Access (Section 831.4)

A public entity, public employee, or a grantor of public easement to a public entity for any of the following purposes, is not liable for an injury caused by a condition of:

1. Any unpaved road which provides access to fishing, hunting, camping, hiking, riding, including animal and all types of vehicular riding, water sports, recreational or scenic areas and which is not a (1) city street or highway or (2) county, state or federal highway or (3) public street or highway of a joint highway district, boulevard district, bridge and highway district or similar district formed for the improvement or building of public streets or highways.
2. Any trail used for the above purposes.
3. Any paved trail, walkway, path, or sidewalk on an easement of way which has been granted to a public entity, which easement provides access to any unimproved property, so long as such public entity shall reasonably attempt to provide adequate warnings of the existence of any condition of the paved trail, walkway, path, or sidewalk which constitutes a hazard to health or safety. Warnings required by this subdivision shall only be required where pathways are paved, and such requirement shall not be construed to be a standard of care for any unpaved pathways or roads.

¹ Limitations on Liability for Non-Profits, The State Coastal Conservancy, 12/1/89

The apparent immunity created for paved trails and walkways by Government Code Section 831.4 must also be viewed with caution because of the specific wording in sub-section three in regard to "providing adequate warning." Even if the City can meet the access requirements and "warn", they are not free from problems. The warn requirement is difficult because the City's efforts to warn must be "reasonable" and provide "adequate warning" of the condition which "constitutes a hazard to health or safety."

Immunity under Section 831.4 is limited expressly to injuries caused by dangerous road or trail conditions, and therefore other statutory liability is not precluded. Nothing in this section indicates that the immunity applies only when the property is being used by the plaintiff for recreational purposes or for access to recreational areas; on the contrary, an injury caused by a dangerous road or trail condition under Section 831.4 is nonactionable regardless of plaintiff's purpose in being there.

Despite this, the Courts have on occasion taken a very narrow interpretation. In Gerkin v Santa Clara Valley Water District (1979) 95 CA 3d 1022 [disapproved because Civil Code 846 was wrongly applied to a public entity: Delta Farms Reclamation Dist. No. 2028 v Superior Court (1983) 33 Cal. 3d 699, 190 CR 494] the Court refused to equate "walking" with "hiking" stating:

...[To] equate the word "hiking" with mere "walking" to traveling on foot apart from any recreational context would be to ignore the legislative purpose and, in effect, broaden the statute in a manner not contemplated by the lawmakers.

...[For] an activity to fall within the term "hiking" ..., it must be proved not merely that the user was "walking" across the property, but that the activity constituted recreational "hiking" within the commonly understood meaning of that word, i.e., to take a long walk for pleasure or exercise. The Counsel agreed that the test should not be based on the plaintiff's state of mind. And believed however, that such a determination must be made through a consideration of the totality of facts and circumstances, including the path taken, the length and purpose of the journey, the topography of the property in question, and the prior use of the land. While the plaintiff's subjective intent will not be controlling, it is relevant to show purpose.

Based on this analysis, The County Counsel concluded that there are several triable issues of fact contained within Section 831.4. Further, it was his opinion that the Courts will follow this type of analysis when construing Government Code Section 831.4 even through Gerkin has been disapproved.

Public Land Trust Inclusion (Section 831.5)

The Legislature declares that innovative public access programs, such as agreements with public land trusts, can provide effective and responsible alternatives to costly public acquisition programs. The Legislature therefore declares that it is beneficial to the people of this state to encourage private nonprofit entities such as public land trusts that preserve open space or increase opportunities for the public to enjoy access to and use of natural resources if such programs are consistent (1) with public safety, (2) with the protection of the resources, and (3) with public and private rights.

This section thereby broadens the term "public entity" references in Sections 831.2, 831.4 and 831.7 to include a public land trust which meets the following:

1. Is a nonprofit organization existing under the provisions of Section 501(c) of the United States Internal Revenue Code.
2. Has specifically set forth in its articles of incorporation, as among its principal charitable purposes, the conservation of land for public access, agricultural, scientific, historical, educational, recreational, scenic, or open space opportunities.
3. Has entered into an agreement with the State Coastal Conservancy..., ...the California Tahoe Conservancy..., or the State Public Works Board...

It appears that the immunities provided by Section 831.2, 831.4 and 831.7 would supplement, not replace, a land trust's immunity under Civil Code Section 846. To date there have not been any court cases testing the government's ability to confer to non-profits the limited liability status of public entities under this section.

Hazardous Recreational Activities (Section 831.7)

Neither a public entity nor a public employee is liable to any person who participates in a hazardous recreational activity, including any person who assists the participant, or to any spectator who knew or reasonably should have known that the hazardous recreational activity created a substantial risk of injury...

Animal riding, bicycle racing or jumping, off road motorcycling or four wheel driving of any kind are considered hazardous by this section. The code, however, does not limit liability which is the result of:

1. Failure of the public entity or employee to guard or warn of a known dangerous condition or of another hazardous recreational activity known to the public entity or employee that is not reasonably

assumed by the participant as inherently a part of the hazardous recreational activity....,

2. Damage or injury suffered in any case where permission to participate in the hazardous recreational activity was granted for a special fee.

This does not include a fee or consideration charged for a general purpose such as a general park admission charge, a vehicle entry fee, or an administrative or group use application or permit fee, as distinguished from a specific fee charged for participation in the specific hazardous recreational activity.

3. Injury suffered to the extent proximately caused by the negligent failure of the public entity or public employee to properly construct or maintain in good repair any structure, recreational equipment or machinery, or substantial work of improvement utilized in the hazardous recreational activity....
4. Damage or injury suffered in any case where the public entity or employee recklessly or with gross negligence promoted the participation in or observance of a hazardous recreational activity.Promotional literature or a public announcement or advertisement which merely describes the available facilities and services on the property does not in itself constitute a reckless or grossly negligent promotion.
5. An act of gross negligence by a public entity or a public employee which is the proximate cause of an injury.

Nothing in this section creates a duty of care or basis of liability for personal injury or for damage to personal property nor does it limit the liability of an independent concessionaire, or any person or organization other than the public entity, whether or not the person organization has a contractual relationship with the public entity.

The court in Morin v County of Los Angeles (1989) 215 CA3d 184, 263 CR 479, held that the immunity of Government Code Section 831.7 applied when the plaintiff dove into a sandbar in shallow water at a public beach, because such an activity is hazardous within the meaning of the section. A court of appeal also held that Section 831.7 barred liability when a surfer became entangled in a lobster trap and died, even in the face of allegations that rescuers were negligent in their efforts in Decker v City of Imperial Beach (1989) 209 CA3d 349, 257 CR 356.

In De Vito v State (1988) 202 CA3d 264, 248 CR 330, the court held that the immunity of Section 831.7 barred the plaintiff's claim for injuries sustained when she fell while swinging on a fire hose hung from a tree on public land. The court held that the risk of falling down an unconcealed slope was reasonably assumed as an inherent part of the activity.

Civil Code Section 846 Recreational Use Statute

The following discussion is extracted from California's Recreational Use Statute & Landowner Liability, prepared by the Bay Area Ridge Trail Council in July 1990.

Civil Code Section 846, also known as the Recreational Use Statute was enacted in 1963 in response to a growing tendency among private landowners to prohibit public access to their property for recreational purposes. Many landowners feared that they would be liable for injuries sustained by such recreational users. The statute has been amended a number of times to expand who is protected from liability and the scope of recreational activities to which the statute applies. California Civil Code Section 846, is contained in Appendix B.

The following cases show how the statute has been interpreted by the courts:

Who is protected:

The Statute was originally enacted to protect landowners. However, it was amended in 1980 to protect any party with an "interest in real property, whether possessory or nonpossessory." This means that someone who has the right merely to use the property, without actually owning the property, may also be immunized from liability under the statute.

The California Supreme Court recently decided that a rancher, who held a grazing permit over federal lands, was protected by the statute in the case of Hubbard v Brown (1990) 50 Cal.3d 189. As a result, the rancher was not liable for injuries sustained by a recreational motorcyclist who ran into a barbed-wire gate the rancher had erected. In this case the protected party held a non-possessory interest in the land.

In Jenson v. Mullen (1989) 211 Cal.App.3d 653, the California Court of Appeal found that a contracting sewer company which dug a hole on the landowner's property did not have an adequate "interest in real property" to shield the contractor from liability for injury to a recreational motorcyclist who fell into the hole. It is interesting to note that the landowner had already been found not liable under the statute in the lower court, the matter was appealed as to the contractor's liability only. The court stated that, although the contractor was entitled to be on the property he did not gain direct benefit from the land.

It is logical to conclude that an independent party, such as a land trust, who holds a trail easement between two public parks would fall under the protection of this statute, since the trust's easement would constitute an "interest in the land."

Activities Covered:

Civil Code 846 states that private landowner's are not required to make their premises safe for use by others, nor to warn others of hazardous conditions on their property, as far as persons entering their property for any recreational purposes are concerned.

The California Court of Appeal recently reaffirmed in Valladares v Stone (1990) 90 Daily Journal D.A.R. 2305, that the activities listed in the statute, which include hiking, riding, and animal riding are not an exclusive list. The case confirmed that the statute did cover tree climbing, even though tree climbing is not specifically listed in the statute. On the other hand, the following cases illustrate that even activities specifically listed may not be covered if these activities are not engaged in for a "recreational purpose."

In Domingue v Presley of Southern California (1988) 197 Cal.App.3d 1060, the California Court of Appeal held that a child injured while bicycling across private land to get to his friend's house had not necessarily entered the land for a recreational purpose. The Court of Appeal instructed the trial court to make this determination.

In Gerkin v Santa Clara Water District (1979) 95 Cal.App.3d 1022, the California Court of Appeal held that a girl injured while walking her bicycle across a private plank bridge while enroute to a nearby store was not necessarily engaged in a recreational activity. Here the Court of Appeal held that a triable issue of fact existed as to whether the activity was "recreational." However, this case was later disapproved on other grounds by the California Supreme Court in Delta Farms Reclamation District v Superior Court (1983) 33 Cal.3d 699, because it wrongfully applied the statute to public entity landowner.

Type of Land Protected:

The applicability of the Recreational Use Statute depends, not only on the type of activity engaged in, but also on the condition of the land involved. This factor is most evident in cases where building construction or other development occurs on the property. Active construction sites, in particular, cause a condition on the land to which the statute is not applicable, as the following cases illustrates:

In the Domingue case referred to previously, a child was injured when he fell over a six-foot drop created by recent grading for house and road construction. The California Court of Appeal held that land under development is neither intended nor suitable for recreational use.

In Potts v Halstead Financial Corp (1983) 142 Cal.App.3d 727, the statute did not apply to a person who fell from the roof of a building under construction. Similarly, in Paige v. North Oak Partners (1982) 134 Cal.App.3d 860, the statute did not apply to a child who bicycled into an open trench on an active shopping center construction site.

Nevertheless, the California Supreme Court pointed out in Delta Farms, that the statute makes no distinction between natural and artificial conditions on the land. The courts seem to distinguish active construction sites or development projects from existing improvements in determining whether to apply the Recreational Use Statute, as the following cases illustrate:

In Nazar v Rodeffer (1986) 184 Cal.App.3d 546, a motorcyclist, injured by a concrete drainage ditch installed many years earlier, was barred from recovering for any landowner negligence.

In Collins v Tippet (1984) 156 Cal.App.3d 1017, the California Court of Appeal found the statute applicable, limiting landowner liability, when concrete-like anti-erosion material that had been applied to the face of a cliff broke off and fell to the beach below, injuring a beachgoer.

While the condition of the land is significant in applying the statute, land type and location- urban, suburban or other undeveloped land - are not, as the following case illustrates:

In the Valladares case, previously discussed, the Statute was applicable even though the tree climbing occurred on a vacant lot in a residential area. The Court of Appeal affirmed that the use of vacant lots for recreational purposes was consistent with the legislative intent of the Statute, which was to encourage land owner's to make lands accessible for recreation.

Exceptions to the Statute:

The Statute specifically excluded three areas from the immunities previously discussed. Landowner's are not immune in the following situations:

1. Landowner willfully or maliciously failed to guard or warn:

Landowner's are not immune from liability if they willfully or maliciously fail to guard or warn the public of a dangerous condition, use, structure, or activity on the land. This applies when a landowner has failed to guard or warn in spite of the knowledge that serious injury will probably result, or with reckless disregard of the possible injurious results. Such willful or malicious behavior is difficult to prove and is rarely found. Examples of court cases dealing with applicability of this exception follow:

Charpentier v VonGeldern (1987) 191 Cal.App.3d 101, involved land bordered by a river that was too shallow for safe swimming and had dangerous submerged objects. The California Court of Appeal found that the landowner had not acted willfully or maliciously by failing to warn of the danger where she had no knowledge that people entered the land to swim or dive nor of the danger inherent in such use.

In Judd v U.S. (S.D. Cal 1987) 650 F.Supp.1503, the U.S. District Court found that the U.S. ForestService was not acting in a willful or malicious manner by its failure to warn of the danger involved in diving from high rocks into a small pond of water because the Forest Service did not know about the dangerous activity.

The California Court of Appeal found that a landowner willfully or maliciously failed to guard or warn in New v Consolidated Rock Products Co.(1985) 171 Cal.App.3d 681, where the owner of a gravel quarry failed to warn motorcyclist about a 20-foot cliff that was created when the quarry expanded an excavation pit by cutting away a section of a road. The quarry owner knew that recreational motorcyclist regularly used the road.

In Rost v U.S. (9th Cir.1986) 803 F.2d 448, the U.S. Court of Appeals found the Forest Service liable for injury resulting from an accident involving a bent roadway gate. The damaged gate violated safety regulations. The Forest Service knew of the condition and its dangerousness and had consciously failed to correct it prior to the accident.



APPENDICES

Appendix A: Trails Advisory Committee Meetings

A G E N D A

TRAILS ADVISORY COMMITTEE MASTER PLAN OF RECREATIONAL TRAILS

CONFERENCE ROOM "A"
CIVIC CENTER

AUGUST 21, 1991
7:00 P.M.

1. Introductions - Committee members, consultants, city staff and guests
2. Scope of the Trails Study - Jere Murphy
3. Purpose of Committee - Jere Murphy
 - a. Represent interested community groups
 - b. Act as community sounding board
 - c. Provide public input
 - d. Review study work products
4. Election of chairperson and vice-chairperson
5. Review of draft Goals and Objectives
6. Comments from Committee members and others present
7. Establish the next meeting date
8. Adjournment

MINUTES

TRAILS ADVISORY COMMITTEE MASTER PLAN OF RECREATIONAL TRAILS

CONFERENCE ROOM "A"
CIVIC CENTER

AUGUST 21, 1991
7:00 P.M.

1. Introductions

Mr. Jere Murphy introduced the City staff members and the committee members. Committee member Dennis Blake was absent (on vacation). The committee members gave a brief background about themselves and their interests in the trail system. Mr. Bob Bennyhoff, Common Talk, and Carol Schroeder, The Irvine Company, also introduced themselves.

2. Scope of Trails Study

Staff reviewed the "Request for Proposal" and explained the details of the scope of work.

3. Purpose of Committee

Mr. Murphy detailed the purpose of the committee as follows:

- A. Represent interested community groups
- B. Act as community sounding board
- C. Provide public input
- D. Review study work products

4. Election of Chairperson

The committee decided to continue the process of having the city staff and consultants run the meetings rather than electing a chairperson. If circumstances change the committee still has the opportunity to elect a chairperson in the future.

MINUTES/TRAILS ADVISORY COMMITTEE

AUGUST 21, 1991

PAGE 2

5. Review of Draft Goals and Objectives

The consultants reviewed the draft goals and objectives and asked that the committee members make their comments for the next meeting. (Copy attached).

6. Comments From Committee Members and Others Present

Staff was requested by the committee to provide current trail plans from the County, the City's General Plan, the North Tustin Area and the Orange Park Acre area.

Committee members suggested that the following items be further discussed at future meetings in conjunction with goals, objectives and issues:

- Destination points
- Trail guide maps
- Soft surface trails vs. hard Surface trails
- Loma bridge
- Trail markers
- Points of interest
- Santiago Canyon Road access for school children
- Possible funding sources
- Prioritize problem areas with a schedule
- Identify all problem areas

7. The next meeting date was made from a consensus of the committee to be Thursday, September 12, 1991, 5:00 P.M. at City Hall. An agenda is attached to these minutes.

Respectfully submitted,



Mary Ann Chamberlain
Senior Planner

MAC:pss
Attachment

FILE NAME: RTMIN8-21

City of Orange Recreational Trails Master Plan

GOALS AND OBJECTIVES:

The City of Orange Recreational Trails Master Plan:

1. Is aimed at a variety of users and shall be designated as multipurpose, providing recreational opportunities for equestrians, hikers and bicyclists. Motorized vehicles will be restricted from the trail system.
2. Will provide for a loop trail system with varying loop lengths within the system.
3. Will provide for diversity in trail experiences including variety in difficulty, terrain, environment and the exploration of historical and interpretive opportunities.
4. Will link recreational opportunities within the City of Orange and County providing for connections between parks, open spaces and trail systems in adjoining jurisdictions.
5. Will be designed with safety as a paramount concern. The plan will:
 - minimize vehicular/trail crossings,
 - maximize the separation between roads and trails (with planting and distance),
 - maximize visibility and warning signage where interface between vehicles and the trail does occur, and
 - provide access for patrol, emergency vehicles and maintenance.
6. Will address issues of regular upkeep and patrol to insure maximum trail safety and low cost maintenance.
7. Will be signed with a system of easily recognized markers which will allow users to clearly recognize the trail system.

RECREATIONAL TRAILS MASTER PLAN
GOALS AND OBJECTIVES
PAGE 2

8. Will, whenever possible, be designated in locations that will provide the community with trails yet minimize the financial burden to the City of Orange. This can be accomplished through:
 - a phasing plan,
 - designations on private parcels that will require the developer to implement the trail, and
 - by locating the trails along existing paths and unimproved roads.
9. Will provide for flexibility in trail standards to maintain compatibility with adjacent land uses.
10. Will minimize impacts to adjacent landowners from trespass, damage and property loss associated with the trail.
11. Will provide standards that will be designed to be compatible with adjacent jurisdictions.
12. Will have environmental sensitivity as a foremost concern. The trail shall be designed to minimize the impact to the environment.
13. Will provide for handicap access whenever possible.
14. Will be designed to reduce exposure to liability to the City of Orange and adjacent landowners.

AGENDA

TRAILS ADVISORY COMMITTEE MASTER PLAN OF RECREATIONAL TRAILS

CONFERENCE ROOM
PUBLIC WORKS/COMMUNITY DEVELOPMENT BLDG.

SEPTEMBER 12, 1991
5:00 P.M.

1. Review of Goals and Objectives
Discuss modifications
2. Review of Trails' Issues
Discuss modifications
3. Trail Planning
 - a. Destination points
 - Where do recreationists desire to go ?
 - What trail connections to other jurisdictions do you want to preserve ?
 - b. Problem areas
 - Which linkages have been lost which need replacement ?
 - Which trails need alternative routing ?
 - Where are there problems that are restricting the use of otherwise viable trails ?
 - c. Existing trails
 - Which trails that are currently in place, do you want to continue using ?
 - do you want deleted from the system ?
4. Establish the next meeting date
5. Adjournment

Minutes Recreational Trails Advisory Committee

September 12, 1991

The consultant reviewed the goals and objectives as presented at the August 21 meeting and asked if there were any other changes or corrections. There being none, the goals and objectives were approved by the committee.

The trail issues list was then presented. Minor modifications were requested by the committee and the advisory committee agreed that the changes would clarify the issued. The consultant team agreed to make the changes prior to the next meeting

The consultants then led the group in a discussion of destination points, problem areas and existing trail segments. The following summarizes that discussion:

The following were indicated as destination points:

1. Santa Ana River to allow access to trail system that connects San Bernardino Mountains and the Ocean.
2. Connection to Santa Ana River to the north through Anaheim
3. Edison easement and/or railroad easement that connects East Orange to the Santa Ana River.
4. Santiago Oaks Regional Park
5. Stables adjacent to Santa Ana River - Use possibly as a staging area.
6. Irvine Regional Park and on to Limestone Regional Park.
7. Peters Canyon.
8. Cleveland National Forest.
9. El Modena School, Santiago High, and Linda Vista School.
10. Proposed community equestrian facility adjacent to Santiago Canyon Road (A).
11. Hart Park.

The following were indicated as desired trail connections to other cities and to the county:

1. Southerly to North Tustin area of county. Explore rail right-of-way south of Collins Ave. as well as connections off Newport Avenue southerly.
2. City of Anaheim trail system (Edison easement, Oak Hills trail and Weir Canyon)
3. East Orange is very important to equestrians, especially connections to Irvine Regional Park, Limestone Regional Park and ultimately to the Cleveland National Forest). A loop trail which included all these destinations would be ideal.
4. City of Villa Park trails
5. Railroad right-of-way to north and west of old town.

NOTE:

One link to river would be adequate. Most equestrians would prefer to ride to the

eastern areas and don't mind having to trailer over to the river to go on river trails or ride to ocean. Make sure that as many connections as possible to east Orange are developed, these are critical linkages.

The following items were indicated as problem areas:

1. Loma Street extension: No trail easement is presently planned on bridge.
2. Between Mountain and Williamsburg dog problem at end of trail at the stables. Trail currently runs across private property.
3. Williamsburg, North of Loma Bridge, fence is falling down. Who is responsible to fix and maintain?
4. The Colony homes: Trail has not been completed. There is right of way to complete trail but a concrete drainage culvert blocks it off.
5. Newport near Chapman- Will trail from the back of Saddlehorn Way connect through the proposed commercial development to Newport ?
6. Santiago Canyon Road - Need safe crossings somewhere between Chapman and Windes. This will help access the proposed community equestrian facility (A) which will be open to the public.
7. Santiago Creek - not enough height clearance on many of the bridges.
8. Santiago Creek near Santa Ana River - Problem with private property lines going to center of creek with owner opposition to trails.
9. Crossing at Tustin Street and railroad right-of-way is a potential problem.

Trails that should be studied to determine if they should be eliminated:

1. Loma north of Santiago Canyon Road: Trail is presently on 2 sides; possibly eliminate one and leave one trail.
2. Trail south-west of West View Drive: Check with the consultant doing North Tustin area trails for County of Orange (HRP) if this will be included on their proposal.
3. East of Sepulcher Cemetery and north-east of Kennymead Street: With other crossing of Santiago Canyon Road, this trail may not be needed.

Crossing Problems:

1. Provide at least one safe crossing on Santiago Canyon Road.
2. Crossing at Chapman and Newport is fairly narrow, not enough waiting area. Move light back with an equestrian height crossing control. Possibly sign to solve problem.

Other issues:

At the next meeting the consultant will provide opinions and backup data on overpass versus below grade crossings (tunnels) including cost, safety and feasibility.

AGENDA

TRAILS ADVISORY COMMITTEE MASTER PLAN OF RECREATIONAL TRAILS

CONFERENCE ROOM
PUBLIC WORKS/COMMUNITY DEVELOPMENT BLDG.

NOVEMBER 21, 1991
5:00 P.M.

1. Review of trails' issues
Discuss modifications
2. Trail planning
 - a. Draft trail alignments - presentation to the Committee by The Elliott Group
 - b. Discussion by the Committee

Note: In addition to this presentation, the committee will be able to review the trail alignments until the next advisory committee meeting which is tentatively planned for December 12. A complete set of the trail maps will be available for check-out at the City during that period.
3. Establish the next meeting date
4. Adjournment

**Minutes
Recreational Trails Advisory Committee**

November 21, 1991

The trails issues list presented at the September 12 meeting was reviewed again. The changes that were discussed at the previous meeting were made by the consultants and the committee had another chance to discuss this item. No new changes were requested and the issues list was approved.

Pam Elliott of The Elliott Group then presented the draft trail alignments. The consultants reported that they had spent the last two months in the field exploring options. The presentation lasted for the greater part of the meeting followed by a question and answer period. One of the more complex questions involved whether a bridge over Santiago Canyon Road was workable. The consultants agreed to explore this option further and to report back to the committee on the possibility and cost for a bridge.

The committee was advised that they could review the trail alignments until the next advisory committee meeting. They were also advised that a complete set of the trail alignment maps could be checked out from Jere or Mary Ann to use in the field or to take to other interested people.

AGENDA

TRAILS ADVISORY COMMITTEE MASTER PLAN OF RECREATIONAL TRAILS

**CONFERENCE ROOM
PUBLIC WORKS/COMMUNITY DEVELOPMENT BLDG.**

**JANUARY 16, 1992
5:00 P.M.**

- 1. Trail Planning**
 - a. Review of comments submitted by the advisory committee on the draft trail alignments. This will also include a discussion of costs associated with a pedestrian/equestrian overpass on Santiago Canyon Road.
 - b. Discussion by the Committee.
- 2. Trail Standards:**

Discussion to include signage, fencing and crossings.
- 3. Management/Maintenance Issues: (optional-time permitting)**

Discussion to include costs & liability issues.
- 4. Establish the next meeting date:**
- 5. Adjournment:**

**Minutes
Recreational Trails Advisory Committee**

January 16, 1992

The meeting began with a discussion of comments received from the advisory committee.

Frank Zanaboni's Comments (comments attached):

1. Class I & II bicycle trails will not be shown on the multi-purpose trails plans because they would be too confusing. An overlay will be provided in the final document to demonstrate where interfaces occur.

Concern that on Santiago Canyon Road a separate bicycle trail should be shown. Jere Murphy indicated that the bicycle master plan would undergo revisions in the future and that consideration would be given to that need.

2. Although the trail along the Santa Ana River is in many places within the City of Orange, the trail was indicated as outside the City limits since the County maintains the control and maintenance of the trail.

3. Staging areas will be shown on the final master plan.

4. Color will be added to the final master plan to clarify the readability of the symbols on the plan.

5. The city will work with OPA and other homeowner's associations to derive multi-purpose use agreements on trails to insure that all recreational users will have access to all trails.

6. The consultant will verify that the trail along Santiago Creek is located per any current established plans.

7. The county is working towards a proposal to acquire the railroad easement to create a comprehensive trail between the cities of Villa Park, Orange and Tustin. As Frank indicated some trail segments have already been lost, however, there are not so many lost that the trail is compromised.

Mary Ann Skorpanich Comments (comments attached):

1. The railroad easement trail will be given the same priority on the trails plan as other trail segments. However, it should be recognized that the acquisition of the easements could be expensive and very time consuming, and therefore could take a longer time than other trail segments to complete.
2. East Orange trails planning was addressed in the attached memo from Vern Jones, City of Orange, Community Planning Manager.

Bill Trapp comments (comments attached):

1. Bill expressed many concerns over loss of cycling opportunities throughout the City. Also of concern was the development of a trail continuously on Santiago Creek. Conflicts of different users on trails was another issue expressed. The masterplan will designate separate trails where sufficient right of way is available. Trails etiquette will be stressed on signage to reduce conflicts through education of trail users on proper trail courtesies, including discussion of which recreationist has the right of way.

2. Bill indicated that fire roads and truck trail should be left open for trail use, even if they aren't designated as trails in the master plan.

Mark Sandford & OPA comments (comments attached):

1. Discussion of overpass issues on Santiago Canyon Road. The consultant discussed several bridge options and costs associated. The advisory committee agreed to meet on January 29, in the field to discuss the pros and cons of several locations. Aesthetic concerns as well as locational issues will be discussed. The consultant will call Continental Bridge to find examples of bridges in Southern California.

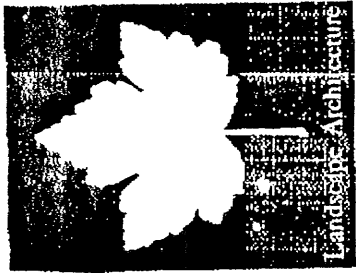
2. Make sure the diversion basin trails have separate bicycle and equestrian paths. Need western and eastern trails in the diversion basin. Work with OPA to determine alignment.

The group decided to have a field trip on January 29 to discuss the following trails:

- A. The Milt Galbraith trail (High Horse down to Newport)
- B. The Mabury Ranch trail (in open space connecting Serrano & Mabury)
- C. The Jack Tucker trail (Meads to Vickie Lane)
- D. Explore possible underpass at Santiago Canyon Road and equestrian center (Beezer property)

Staff and the consultants will talk with Bernie about standards for on-grade equestrian crossings at critical intersections. The City is currently redoing several intersections to allow more waiting room.

The advisory committee agreed to meet again on 1-29-92, 1:00 - 4:00 at the commercial center on the corner of Newport and Chapman (near the water tower) to discuss the above mentioned trail issues.



Frank Zanaboni
& Associates

December 13, 1991

Some Questions after reviewing Recreational Trails Master Plan:

1. Should Class II bike trails be shown on plan?
2. Trails shown along Santa Ana River are designated as out of the city's jurisdiction. Is that correct?
What defines the city's jurisdiction?
3. Should areas for staging/parking be shown? -
4. The symbols are hard to follow.
Possible: solution would be to include a letter designation inside the symbol to represent the type of trail and a different symbol shape to represent existing or proposed.
5. Double check the accessibility of trails within OPA. Are they Multipurpose or reserved for only horses?
Some trails in Santiago Oaks Park are designated for only horses or hikers.
6. Double check alignment of trail along Santiago Creek.
7. Aren't some of the R. R. easement properties being proposed for development? Are any plans being made to allow for trail access?

DATE: January 13, 1992

TO: Jere Murphy, Advance Planning Manager

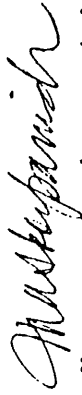
RE: Comments on Draft Master Plan of Recreational Trails

I have reviewed the draft Master Plan and am providing these written comments per your request. In general, the Master Plan appears to adequately provide for a good network of trails within Orange that also connect well with systems outside of the city. Overall I am pleased with the execution of the goals and procedures set forth by staff at the beginning of the Trails Advisory Committee's work. On a technical matter, I would like more clarification on the symbols representing trails in other jurisdictions. Currently, it is not clear whether these circles and squares distinguish trail types A and B, or existing and proposed trails.

I would like to place into the record my objections to two policy decisions guiding the development of the Master Plan that I believe have serious consequences for its completeness as a citywide plan. First, I take exception to the designation of some trails as secondary priority. I understand that the issues surrounding the use of railroad rights of way have some barriers with immediate neighbors and staff's fear of delaying the remainder of the Master Plan to address these issues. However, these particular segments represent critical links to the northwest and southeast that I believe are very important. The east-west railroad and utility easement provides the only trail linkage for the west and northwest portions of the city. To downgrade their priority and risk losing the ability to some day put in a trail along this corridor would seriously short change residents in this area of the city. As the existing and proposed trail system shown in the Master Plan is already heavily weighted toward the eastern portions of the city, I believe it is equitable to place additional efforts, as needed, to provide for trails in this area.

Secondly, I am uncomfortable with the omission from the Master Plan of the area to be developed under the East Orange General Plan. Despite the limits of the current city boundaries defined from the outset of the Trails Advisory Committee's work, I feel it is important to plan now for trails in that area. Doing so at this time would provide, I feel, a more comprehensive planning process for citywide trails. It is my concern that other planning will proceed that may preclude or debilitate comprehensive trail planning for this area.

Thank you for all of your assistance to the committee and for the opportunity to participate in trails planning.



Mary Anne Skorpanich
Trails Advisory Committee


O.P.A. TRAILS COMMITTEE

AREAS OF CONCERN REGARDING CITY TRAILS

1. Santiago Canyon Road overcrossing.....best spot?
2. Connector from Irvine Park to Santiago Oaks east/west of dam
3. Eastern connect around dam
4. High Horse trail down to Newport Blvd.
5. Middle Mayberry Ranch need to be all the way to the east
6. Santiago Creek/Mayberry Ranch trail out of existence in creek
7. Jack Tucker Trail

MEMORANDUM

TO: Mary Ann Chamberlain, Senior Planner

FROM: Vern Jones, Community Planning Manager 

DATE: January 15, 1992

SUBJECT: Trails Planning/E.O.G.P.

In response to your concern regarding the separate trails planning effort occurring with the East Orange General Plan (E.O.G.P.), I want to reassure you that the E.O.G.P. trails planning will: (1) integrate well with the existing City Trails Plan, and (2) be comprehensive. The E.O.G.P. adopted in December, 1989 established a regional and community level trail system for its area. The regional trail system will connect existing and planned regional parks in the area together and tie into the County's Regional Trail System. The community trail system is intended to connect residential neighborhoods to the regional system and create trail loops within the E.O.G.P. area which allow for trips of convenient length. Approximately 45 miles of potential trails were identified for the E.O.G.P. area.

The details of financing, designing, constructing and maintaining the planned trail system will be completed in conjunction with the Specific Plan(s) prepared for the E.O.G.P. area. Until a more detailed analysis occurs in conjunction with the landowner, including safety, liability and grading issues, any attempt to do more detailed planning would undoubtedly be a waste of resources. The following text and exhibits from the E.O.G.P. summarizes the trail planning completed to date:

VJ:pss

Loss of cycling space

Collins from Glassell to Batavia: Originally, there were two traffic lanes each direction, with parking both sides of street. Where trucks were parked on the street it was not safe for bicycles, but there was enough space. Then parking was eliminated on the street and it was great for cyclists-- plenty of room. Then the street was re-stripped with driving lanes running the full width of the street, and a two-way left turn lane down the center of the street. Now it is extremely hazardous for bicycles, and this is a street that is used by many commuter cyclists.

I think that before any changes are made on streets consideration should be given to the many cyclists who use these thoroughfares.

Chapman Ave. and Tustin used to have on-street parking, and there was enough space for cyclists. Now these streets are hazardous. Chapman east of the 55 freeway is especially dangerous for cyclists.

Loss of running areas.

When an area gets "developed," sidewalks and asphalt streets replace former dirt areas. How can we keep some dirt trails throughout the city and still develop an area?

Santiago Creek Trail

Development of this trail for its entire length should be a priority. Hopefully, cooperation from other agencies could result in a trail that runs all the way to the SA River.

Litter control/maintenance

Post occasional signs which tell users that this is their trail; ask for help in keeping it litter-free. Encourage users to pick up trash, or leave a phone number where a city employee, volunteer, or whoever, could be reached and clean up an area.

Try to get sponsors to maintain sections of the trails, like the Adopt-A-Highway program.

Stage an event, e.g., a 5K-10K run, in order to raise funds for trail maintenance or trail building.

Conflicts among various users.

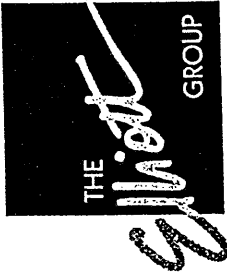
Frequently used horse trails are neither good bicycling nor running trails. A good example of this is along the west side of Newport, south of Chapman.

Most runners I know prefer graded dirt, etc., to run on. Second choice is asphalt. Most long-distance runners hate concrete. The irony is that people expect runners to use sidewalks, yet that is often the worst place for runners, and is unsafe where driveways are used frequently.

I believe that, in addition to trying to develop new trails, an education campaign should be initiated, similar to the city's recycling efforts, to make the public more aware of alternative forms of transportation, and the city should adopt a "Share The Road" attitude. At the same time, perhaps only for a limited time, enforcement of traffic laws for cyclists could be stepped up also.

I was appalled at the re-striping situation on Collins Ave. described above. I thought it particularly insensitive not to include a safe bicycle lane, since this street is heavily used by cyclists.

Fire roads are ideal for running and mountain biking, and I believe they would also be fine for horseback riding. I would like to see all the fire roads in the county preserved and left open to non-motorized uses.



COST ESTIMATE

Equestrian/Pedestrian Overpass
Santiago Canyon Road
Orange, California

Pre-Fab Steel Bridge (10') Equestrian Only

Pre-Fab Bridge & Ramps (Continental or equal).	.	.	.	\$ 288,000
Installation (Footings & Labor)	.	.	.	125,000
Land (Estimate 1/2 acre required, 1/4 acre per side for ramps)	.	.	.	250,000
TOTAL	.	.	.	\$ 663,000

Pre-Fab Steel Bridge (18') Equestrian & Pedestrian

Pre-Fab Bridge & Ramps (Continental or equal).	.	.	.	\$ 480,000
Installation (Footings & Labor)	.	.	.	200,000
Land (Estimate 1/2 acre required, 1/4 acre per side for ramps)	.	.	.	250,000
TOTAL	.	.	.	\$ 930,000

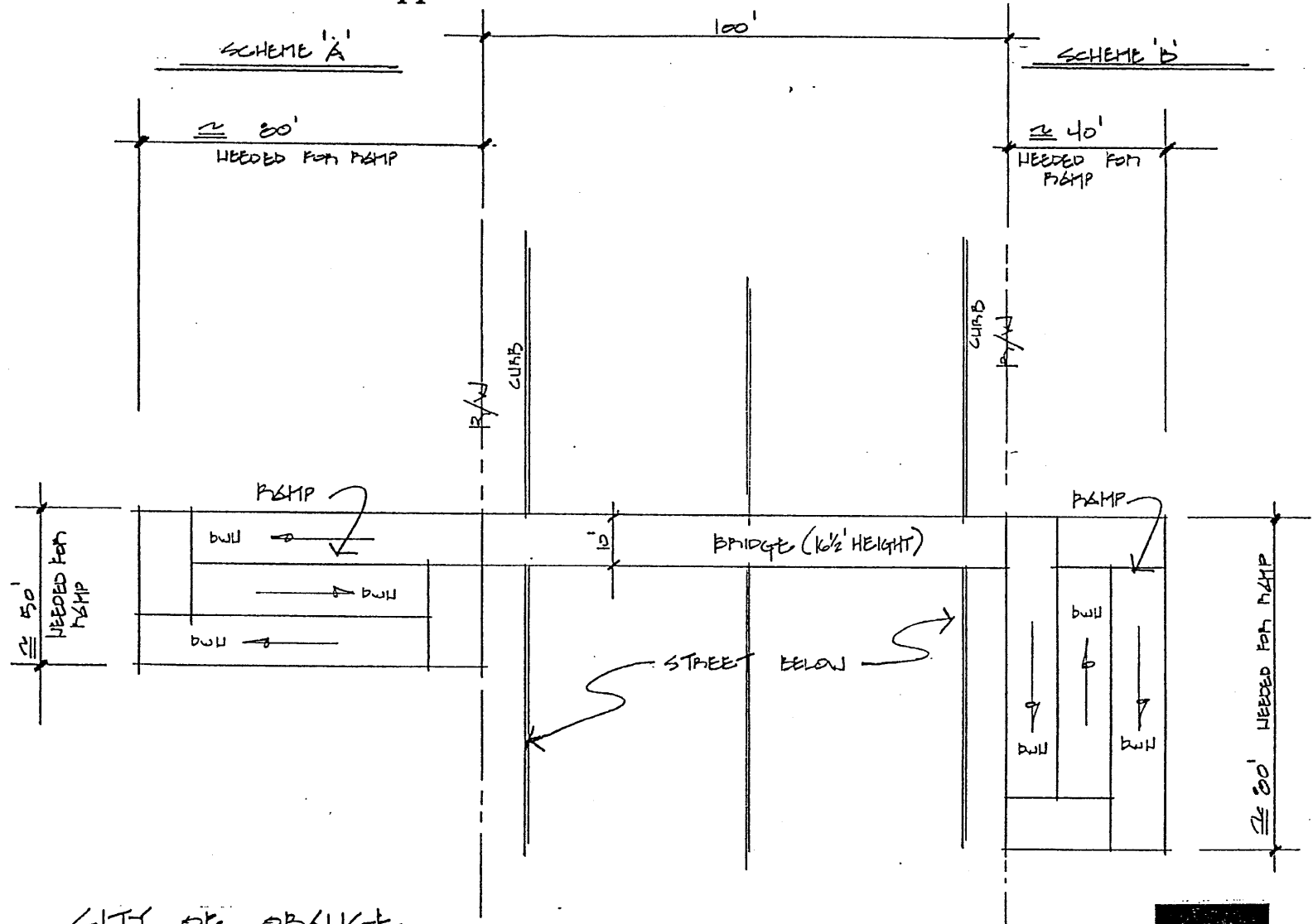
Concrete Bridge (10') Equestrian Only

Concrete Bridge & Ramps (includes labor)	.	.	.	\$ 696,000
Land (Estimate 1/2 acre required, 1/4 acre per side for ramps)	.	.	.	250,000
TOTAL	.	.	.	\$ 946,000

Concrete Bridge (18') Equestrian & Pedestrian

Concrete Bridge & Ramps (includes labor)	.	.	.	\$ 1,218,000
Land (Estimate 1/2 acre required, 1/4 acre per side for ramps)	.	.	.	250,000
TOTAL	.	.	.	\$ 1,468,000

This conceptual diagram was presented to the Advisory Committee for their use in analyzing the possibility of a bridge over Santiago Canyon Road. This is not an approved standard.



CITY OF ORANGE
 PEDESTRIAN/BICYCLIST BRIDGE
 CONCEPTUAL PLAN/LAYOUT

DECEMBER 9, 1991



AGENDA

TRAILS ADVISORY COMMITTEE MASTER PLAN OF RECREATIONAL TRAILS

FIELD REVIEW OF TRAILS

**JANUARY 29, 1992
1:00 to 4:00 P.M.**

1. Meet at Newport & Chapman commercial center near water tower
- Review trail alignments at the following locations:
2. Santiago Canyon Road overpass/underpass options:
 - A. Southern Boundary of Cemetery
 - B. Anapola
 - C. Northern Boundary of Cemetery
 - D. Orange Park Blvd. near Beezer property (possible underpass)
3. Villa Park Dam
 - A. Connection between Santiago Oaks Regional Park & diversion basin
 - B. Eastern & northern trails in diversion basin
4. Mabury Ranch & north/south arroyo
5. Collins undercrossing at Santiago Creek Prospect / Bond crossing
County staging area
6. Meads loop west of Orange Park Blvd. Look at Vickie Lane.
Also examine Daniel & McDonald connections west of Orange Park Blvd.
7. Milt Galbraith property near Newport & Chapman
8. Return to Newport & Chapman commercial center

Minutes

Master Plan Trails Advisory Committee

Field Trip

January 29, 1992

The purpose of the field meeting was to allow the entire design team to take another look at several areas that the committee had questions or concerns about. In attendance were:

Advisory Committee Members:

Mark Sandford, Frank Zanaboni, Bill Trapp and Sharon Spoolstra

Lauren Ficaro - Orange Park Acres

Mary Ann Chamberlain, Jere Murphy, Howard Morris - City of Orange

Mike Elliott & Pam Elliott - The Elliott Group

The group boarded a bus at the commercial center at Newport and Chapman and visited the locations described on the agenda. All locations with the exception of location #7, which because of time constraints was eliminated, were visited. A discussion of the trail issues took place on site at each location. In addition to those listed, a stop was also made at Santiago Canyon Road near Orange Park Blvd. (at the proposed equestrian center) to discuss the possibility of an undercrossing in that area.

AGENDA

TRAILS ADVISORY COMMITTEE MASTER PLAN OF RECREATIONAL TRAILS

CONFERENCE ROOM
PUBLIC WORKS/COMMUNITY DEVELOPMENT BLDG.

MARCH 5, 1992
5:00 P.M.

1. Trail Planning
 - a. Discuss field review of January 29, 1992
 - b. Discuss revisions to trail layout
2. Trail Standards
 - a. Discussion of draft standards
 - b. Standards will be available for review until March 12, 1992
3. Establish next meeting date
4. Adjournment

Minutes Master Plan Trails Advisory Committee

March 5, 1992

Mike Elliott reviewed the January 29 field trip for those advisory committee members who were not able to attend. Overpass and underpass options for Santiago Canyon Road were key items reviewed on the trip. Based on this field review and additional investigation Mike reported that the consultant design team's recommendation would be to show an overpass at the southern most edge of the Cemetery north of the Broadmoor community that would connect to a trail on the east side of Santiago Canyon Road heading easterly until it connected with the diversion basin trail east of the Cemetery.

He also indicated that an underpass would be shown under Santiago Canyon Road near Orange Park at the proposed equestrian center. He emphasized that the City does not have the funds to implement either of these crossings and that their implementation could take place only if private money was found for these projects. In the event that private funds are never found, the consultants indicated that the plan has been designed to work effectively without these crossings.

Other items that were reviewed were the connection between Santiago Regional Park and the diversion basin, Mabury to Serrano trail, Windes feeder trail, Collins undercrossing at Santiago, Prospect/Bond crossing, Meads loop and the Galbraith property. In addition to the overpass/underpass changes indicated above, the following changes to the plan were discussed:

1. addition of an eastern & northern basin trail above the Villa Park Dam,
2. addition of a trail east of Windes between Santiago and the stables to serve as a feeder trail,
3. deletion of the Lomita trail near Rancho Santiago Canyon Blvd. and the El Modena Open Space,
4. addition of a trail on an existing dedicated trail easement between Serrano and Mabury at the end of Serrano,
5. modification of the trail route in the Prospect/Bond/Walnut areas, and
6. change of the Palmyra route to an alternate route.

The committee discussed the changes and concurred with the recommendations.

Trail standards were next discussed by Pam Elliott. Discussion included fence selection, width of the trail to accommodate carriages and whether the signs selected were flame resistant. The only change agreed on by the committee was to give the City the discretion of granting an exception to Orange Park Acres to continue with the style fence they currently have (painted white rail fence).

A next meeting date of April 9 or 16 was discussed, however, no date was selected. The committee was advised that they would be notified when the next meeting would be scheduled and at that time they could review the draft of the complete document.

Appendix B: Liability

Government Code Section 810 et seq. The California Tort Claims Act

Chapter 2. Dangerous Conditions of Public Property Article 1. General

830. [Definitions.] As used in this chapter:

(a) "Dangerous condition" means a condition of property that creates a substantial (as distinguished from a minor, trivial or insignificant) risk of injury when such property or adjacent property is used with due care in a manner in which it is reasonably foreseeable that it will be used.

(b) "Protect against" includes repairing, remedying or correcting a dangerous condition, providing safeguards against a dangerous condition, or warning of a dangerous condition.

(c) "Property of a public entity" and "public property" mean real or personal property owned or controlled by the public entity, but do not include easements, encroachments and other property that are located on the property of the public entity but are not owned or controlled by the public entity.

Approved Law Revision Commission Comment

This section defines the terms used in this chapter. The definition of "dangerous condition" defines the type of property conditions for which a public entity may be held liable but does not impose liability. A public entity may be held liable for a "dangerous condition" of public property only if it has acted unreasonably in creating or failing to remedy or warn against the condition under the circumstances described in subsequent sections.

A "dangerous condition" is defined in terms of "foreseeable use." This does not change the pre-existing law relating to cities, counties and school districts. These entities [were] liable under [former] Government Code Section 53051 for maintaining property in a condition that creates a hazard to foreseeable users even if those persons use the property for a purpose for which it is not designed to be used or for a purpose that is illegal. *Acosta v. County of Los Angeles*, 56 Cal.2d 208, 14 Cal. Rptr. 433, 363 P.2d 473 (1961); *Torkelson v. City of Redlands*, 198 Cal. App.2d 354, 17 Cal. Rptr. 899 (1961).

The definition of "dangerous condition" is quite broad because it incorporates the broad definition of "injury" contained in Section 810.8. Thus, the danger involved need not be a danger of physical injury; it may be a danger of injury to intangible interests so long as the injury is of a kind that the law would redress if it were inflicted by a private person. For example, liability for an offensive odor may be imposed if the requirements of this chapter are satisfied.

Under the previous law, public entities were liable for maintaining a nuisance; but under this statute liability for conditions that would constitute a nuisance will have to be based on the somewhat more rigorous standards set forth in this chapter. Liability for such conditions cannot be imposed upon a nuisance theory because Section 815 provides public entities with immunity from liability unless liability is imposed by an enactment, and there is no enactment imposing liability on a nuisance theory.

"Adjacent property" as used in the definition of "dangerous condition" refers to the area that is exposed to the risk created by a dangerous condition of the public property. For example, the hazard created by a condition of public property may not be a hazard to persons using the public property itself, but may be a hazard to other property or to those using other property. A tree located on public property may have a decayed limb overhanging private property and creating a hazard to that property and the persons on it. Explosives on public property may create a hazard to a wide area of private property adjacent to the public property.

Under the definition as it is used in subsequent sections, a public entity cannot be held liable for dangerous conditions of "adjacent property." A public entity may be liable only for dangerous conditions of its own property. But its own property may be considered dangerous if it creates a substantial risk of injury to adjacent property or to persons on adjacent property; and its own property may be considered dangerous if a condition on the adjacent property exposes those using the public property to a substantial risk of injury.

A condition is not dangerous within the meaning of this chapter unless it creates a hazard to those who foreseeably will use the property or adjacent property with due care. Thus, even though it is foreseeable that persons may use public property without due care, a public entity may not be held liable for failing to take precautions to protect such persons. The definition would, however, take into consideration the standard of care that would be applicable to foreseeable users of the property. Where it is reasonably foreseeable that persons to whom a lower standard of care is applicable—such as children—may be exposed to a substantial risk of injury from the property, the public entity should be required to take reasonable precautions to protect such persons from that risk. Thus, a public entity may be expected to fence a swimming pool or to fence or lock up a dangerous instrumentality if it is reasonably foreseeable that small children may be injured if such precautions are not taken.

Although the condition will not be considered dangerous within the meaning of this chapter unless it creates a hazard to those who foreseeably will use the property or adjacent property *with due care*, this does not

require that the injured person prove that he was free from contributory negligence. Contributory negligence is a matter of defense under subdivision (b) of Section 815. The plaintiff is, however, required to establish that the condition was one that created a hazard to a person who foreseeably would use the property or adjacent property with due care.

A condition will not be considered dangerous unless it creates a substantial (as distinguished from a minor, trivial or insignificant) risk of injury.

The definition of "protect against" is self-explanatory.

"Property of a public entity" excludes easements, encroachments and similar property, not owned or controlled by the public entity, that may be located on the property of a public entity in order to make clear that it is not the duty of the owner of the servient estate to inspect such property for hazards; rather, it is the duty of the person or entity that owns the easement, encroachment, etc. Of course, if the condition of the easement or encroachment renders the public property dangerous—as, for example, where a privately owned power line falls or sags across a public highway—the public entity will have an obligation to take reasonable precautions after it receives notice of the condition.

830.2.[Trivial defect.] A condition is not a dangerous condition within the meaning of this chapter if the trial or appellate court, viewing the evidence most favorably to the plaintiff, determines as a matter of law that the risk created by the condition was of such a minor, trivial or insignificant nature in view of the surrounding circumstances that no reasonable person would conclude that the condition created a substantial risk of injury when such property or adjacent property was used with due care in a manner in which it was reasonably foreseeable that it would be used.

831.2. [Natural condition of unimproved property.] Neither a public entity nor a public employee is liable for an injury caused by a natural condition of any unimproved public property, including but not limited to any natural condition of any lake, stream, bay, river or beach.

§831.25. [Land failure created by natural condition.]

(a) Neither a public entity nor a public employee is liable for any damage or injury to property, or for emotional distress unless the plaintiff has suffered substantial physical injury, off the public entity's property caused by land failure of any unimproved public property if the land failure was caused by a natural condition of the unimproved public property.

(b) For the purposes of this section, a natural condition exists and property shall be deemed unimproved notwithstanding the intervention of minor improvements made for the preservation or prudent management of the property in its unimproved state that did not contribute to the land failure.

(c) As used in this section, "land failure" means any movement of land, including a landslide, mudslide, creep, subsidence, and any other gradual or rapid movement of land.

(d) This section shall not benefit any public entity or public employee who had actual notice of probable damage that is likely to occur outside the public property because of land failure and who fails to give a reasonable warning of the danger to the affected property owners. Neither a public entity nor a public employee is liable for any damage or injury arising from the giving of a warning under this section.

(e) Nothing in this section shall limit the immunity provided by Section 831.2.

(f) Nothing in this section creates a duty of care or basis of liability for damage or injury to property or of liability for emotional distress.

(Added by Stats 1984, ch 1071, §1; amended by Stats 1988, ch 1034, §1)

§831.4. [Unpaved access roads and trails; paved paths on easements granted to public entities.]

A public entity, public employee, or a grantor of a public easement to a public entity for any of the following purposes, is not liable for an injury caused by a condition of:

(a) Any unpaved road which provides access to fishing, hunting, camping, hiking, riding, including animal and all types of vehicular riding, water sports, recreational or scenic areas and which is not a (1) city street or highway or (2) county, state or federal highway or (3) public street or highway of a joint highway district, boulevard district, bridge and highway district or similar district formed for the improvement or building of public streets or highways.

(b) Any trail used for the above purposes.

(c) Any paved trail, walkway, path, or sidewalk on an easement of way which has been granted to a public entity, which easement provides access to any unimproved property, so long as such public entity shall reasonably attempt to provide adequate warnings of the existence of any condition of the paved trail, walkway, path, or sidewalk which constitutes a hazard to health or safety. Warnings required by this subdivision shall only be required where pathways are paved, and such requirement shall not be construed to be a standard of care for any unpaved pathways or roads.

(Amended by Stats 1979, ch 1010, §1.)

§831.5. [Public entity to include public land trust.]

(a) The Legislature declares that innovative public access programs, such as agreements with public land trusts, can provide effective and responsible alternatives to costly public acquisition programs. The Legislature therefore declares that it is beneficial to the people of this state to encourage private nonprofit entities such as public land trusts that preserve open space or increase opportunities for the public to enjoy access to and use of natural resources if such programs are consistent (1) with public safety, (2) with the protection of such resources, and (3) with public and private rights.

(b) For the purposes of Sections 831.2, 831.4, and 831.7, "public entity" includes a public land trust which meets all of the following:

(1) Is a nonprofit organization existing under the provisions of Section 501(c) of the United States Internal Revenue Code.

(2) Has specifically set forth in its articles of incorporation, as among its principal charitable purposes, the conservation of land for public access, agricultural, scientific, historical, educational, recreational, scenic, or open space opportunities.

(3) Has entered into an agreement with the State Coastal Conservancy for lands located within the coastal zone, as defined in Section 31006 of the Public Resources Code, with the California Tahoe Conservancy or its designee for lands located within the Lake Tahoe region, as defined in subdivision (c) of Section 66953 of the Government Code, or with the State Public Works Board or its designee for lands not located within the coastal zone or the Lake Tahoe Region, on such terms and conditions as are mutually agreeable, requiring the public land trust to hold the lands or, where appropriate, to provide nondiscriminatory public access consistent with the protection and conservation of either coastal or other natural resources, or both. The conservancy or the board, as appropriate, shall periodically review the agreement and determine whether the public land trust is in compliance with the terms and conditions. In the event the conservancy or the board determines that the public land trust is not in substantial compliance with the agreement, the conservancy or the board shall cancel the agreement, and the provisions of Sections 831.2, 831.4, and 831.7 shall no longer apply with regard to that public land trust.

(c) For the purposes of Sections 831.2 and 831.4, "public employee" includes an officer, authorized agent, or employee of any public land trust which is a public entity.

(Added by Stats 1980, ch 1123, §1. Amended by Stats 1980, ch 1234, §1; Stats 1980, ch 1234, §1; Stats 1984, ch 1222, §1, effective September 17, 1984; Stats 1984, ch 1239, §1, effective September 17, 1984.)

§831.7. [Hazardous recreational activities.]

(a) Neither a public entity nor a public employee is liable to any person who participates in a hazardous recreational activity, including any person who assists the participant, or to any spectator who knew or reasonably should have known that the hazardous recreational activity created a substantial risk of injury to himself or herself and was voluntarily in the place of risk, or having the ability to do so failed to leave, for any damage or injury to property or persons arising out of that hazardous recreational activity.

(b) As used in this section, "hazardous recreational activity" means a recreational activity conducted on property of a public entity which creates a substantial (as distinguished from a minor, trivial, or insignificant) risk of injury to a participant or a spectator.

"Hazardous recreational activity" also means:

(1) Water contact activities, except diving, in places where or at a time when lifeguards are not provided and reasonable warning thereof has been given or the injured party should reasonably have known that there was no lifeguard provided at the time.

(2) Any form of diving into water from other than a diving board or diving platform, or at any place or from any structure where diving is prohibited and reasonable warning thereof has been given.

(3) Animal riding, including equestrian competition, archery, bicycle racing or jumping, boating, cross-country and downhill skiing, hang gliding, kayaking, motorized vehicle racing, off-road motorcycling or four-wheel driving of any kind, orienteering, pistol and rifle shooting, rock climbing, rocketeering, rodeo, spelunking, sky diving, sport parachuting, body contact sports (i.e., sports in which it is reasonably foreseeable that there will be rough bodily contact with one or more participants), surfing, trampolining, tree climbing, tree rope swinging, water skiing, white water rafting, and wind surfing.

(c) Notwithstanding the provisions of subdivision (a), this section does not limit liability which would otherwise exist for any of the following:

(1) Failure of the public entity or employee to guard or warn of a known dangerous condition or of another hazardous recreational activity known to the public entity or employee that is not reasonably assumed by the participant as inherently a part of the hazardous recreational activity out of which the damage or injury arose.

(2) Damage or injury suffered in any case where permission to participate in the hazardous recreational activity was granted for a specific fee. For the purpose of this paragraph, a "specific fee" does not include a fee or consideration charged for a general purpose such as a general park admission charge, a vehicle entry or parking fee, or an administrative or group use application or permit fee, as distinguished from a specific fee charged for participation in the specific hazardous recreational activity out of which the damage or injury arose.

(3) Injury suffered to the extent proximately caused by the negligent failure of the public entity or public employee to properly construct or maintain in good repair any structure, recreational equipment or machinery, or substantial work of improvement utilized in the hazardous recreational activity out of which the damage or injury arose.

(4) Damage or injury suffered in any case where the public entity or employee recklessly or with gross negligence promoted the participation in or observance of a hazardous recreational activity. For purposes of this paragraph, promotional literature or a public announcement or advertisement which merely describes the available facilities and services on the property does not in itself constitute a reckless or grossly negligent promotion.

(5) An act of gross negligence by a public entity or a public employee which is the proximate cause of the injury.

Nothing in this subdivision creates a duty of care or basis of liability for personal injury or for damage to personal property.

(d) Nothing in this section shall limit the liability of an independent concessionaire, or any person or organization other than the public entity, whether or not the person or organization has a contractual relationship with the public entity to use the public property, for injuries or damages suffered in any case as a result of the operation of a hazardous recreational activity on public property by the concessionaire, person, or organization.

(Added by Stats 1983, ch 863. §1.)

California Civil Code Section 846 Recreational Use Statute

§ 846. Permission to enter for recreational purposes

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.

Additional Analysis of Government Code Section 831.2

In *Milligan v City of Laguna Beach* (1983) 34 C3d 829, 196 CR 38, the immunity conferred by Govt C §831.2 was held not to preclude municipal liability for injuries sustained by a private landowner from the falling limb of a tree located on adjacent government property. The court quoted the official legislative comment to Govt C §831.2 (see Supp §2.4) as indicating that the intent of the immunity was to permit recreational use of government property in its unimproved condition at the user's risk because without immunity, government entities might prohibit use to avoid tort liability and the expense of precautionary improvements. Since the policy on which the immunity was based did not apply to injuries incurred by nonusers on adjacent private land, the court concluded that the immunity likewise did not apply.

In 1984, the legislature enacted Govt C §831.25, precluding the application of *Milligan* to landslides and other earth movements (land failure) of unimproved public property caused by a natural condition of the property. The section immunizes a public entity and its employees from liability for any off-site property damage, personal injury, or emotional distress unaccompanied by substantial physical injury, all or any of which has been caused by a land failure. A natural condition exists and property is considered unimproved despite minor improvements on the property that were made for its preservation or prudent management in its unimproved state and that did not contribute to the land failure. The immunity does not apply to a public entity or employee who had actual notice of likely and probable off-site damage from a land failure and who failed to give reasonable warning of the danger. Under the immunity, land failure refers to any movement of land, including a landslide, mudslide, creep, subsidence, or any other gradual or rapid movement of land.

Government Code §831.25 neither limits the immunity of Govt C §831.2 nor creates a duty of care or basis of liability for damage or injury to property, or for emotional distress. Although Govt C §831.25 was enacted in response to the *Milligan* opinion, the decision apparently still represents good law on its specific facts, since a falling tree limb would not come within the definition of "land failure" set forth in subdivision (c). Effective January 1, 1989, Govt C §831.25(d) was amended to provided that neither a public entity nor a public employee is liable for any damage or injury arising from the giving of a warning under §831.25. See Supp App for complete text of Govt C §831.25.

Gonzales v City of San Diego (1982) 130 CA3d 882, 182 CR 73, created a controversy that led to the enactment of Govt C §831.21, effective January 1, 1988, which abrogated *Gonzales*. In the interim between *Gonzales* and the enactment of Govt C §831.21, several cases focused on the immunity of Govt C §831.2 for natural conditions of unimproved public entity property.

In *Gonzales*, decedent had drowned while swimming at a city-operated beach where municipal lifeguards and police protection were provided. The complaint alleged that a dangerous rip tide existed both before and at the time of the drowning; that the city, after notice of the rip tide, negligently failed to post warnings or to provide adequate lifeguard or police patrols; and that the drowning of decedent, who relied on the absence of warnings, was caused by the resulting dangerous condition of the beach. The city's demurrer, which relied on immunity under Govt C §831.2, was sustained without leave to amend. The court concluded that the immunity provided by Govt C §831.2 did not apply, observing that (130 CA3d at 885, 182 CR at 75):

the complaint describes a hybrid dangerous condition, partially natural and partially artificial in character, the result of a combination of a natural defect within the property [i.e., the rip tide] and the third-party conduct of City ... in performing that voluntarily assumed [lifeguard] service negligently by failing to warn of the known, hazardous, natural condition.

This narrow construction of the immunity, according to the court's opinion, was consistent with the basic purpose of Govt C §831.2 to encourage public use of unimproved public areas by relieving public entities of the duty and expense of putting that property into safe condition or providing protection to users. "Once the public entity provides the protective service so as to create a dangerous condition, ... the underlying intent, ... to free the public entity from the duty of performing protective services, becomes moot." 130 CA3d at 886, 182 CR at 76. At the same time, however, the court was careful to note that liability could be avoided if the city showed it acted reasonably in light of practical and economic considerations. 130 CA3d at 889 n5, 182 CR at 77 n5.

Gonzales was distinguished by *Winterburn v City of Pomona* (1986) 186 CA3d 878, 231 CR 105, in which plaintiffs' son was killed by falling rocks and debris from the roof of a natural cave located on a city greenbelt area. Rejecting a contention that the immunity of Govt C §831.2 was not intended to apply to unimproved property in urban areas, the court upheld summary judgment for the city while relying on the fact that the city never voluntarily undertook protection of the public from the cave. *Gonzales* was also distinguished by *Kuykendall v State* (1986) 178 CA3d 563, 223 CR 763, in which plaintiff was rendered a quadriplegic when he swung from a rope hanging from a tree limb overhanging a canyon and lost his grip. Summary judgment for defendant on the basis of the immunity of Govt C §831.2 was upheld on appeal. The court observed that there was no indication that defendant voluntarily assumed the obligation to warn the public of the dangers of such activity, and concluded that "mere attachment of a rope on defendant's undeveloped land by an unknown third party did not change the 'natural condition' of the land." 178 CA3d at 566, 223 CR at 765. In *Eben v State* (1982)

130 CA3d 416, 181 CR 714, plaintiff was rendered a quadriplegic when he fell and struck a submerged rock while waterskiing in a federal reservoir leased to the state for surface recreational purposes. On an appeal by the state from an order granting a new trial following a jury verdict in favor of the state, the court observed that the immunity of Govt C §831.2 is absolute (130 CA3d at 421, 181 CR at 716) and concluded that the immunity applied. The court rejected plaintiff's argument that the placement of warning buoys some distance from the accident location rendered the property improved so as to take it outside the immunity. The court also refused to accept an argument that the placement of warning buoys designating other areas as unsafe for waterskiing created a false sense of security that skiing was safe at the accident location, because there was no evidence that the state caused the boating public to believe the shoreline where the accident occurred was free of rocks. Thus, to the extent *Gonzales v City of San Diego*, *supra*, recognized public entity liability for dangerous conditions of its unimproved property absent an entity's representation of safety or creation of an illusion of safety, the *Gonzales* and *Eben* opinions were in conflict. Further, *Eben* rejected the argument that the accident site was not in a natural condition because (1) it had been artificially denuded of trees, and vegetation, and (2) the water level of the lake was artificially controlled. See also Govt Code §831.7, enacted in 1983, discussed in Supp §3.49.

In *McCauley v City of San Diego* (1987) 190 CA3d 981, 235 CR 732, the same appellate division that decided *Gonzales* confirmed, defined, and limited the rule of *Gonzales*. After consuming alcohol, the plaintiff in *McCauley* fell from a cliff overhanging a beach in a recreational area open to the public. The trial court concluded that the immunity of Govt C §831.2 applied in the absence of any evidence that plaintiff relied on or was misled by any city action or inaction. Refusing to equate the city's warning signs of false and slippery cliff trails to the voluntary lifeguard and protective activity of *Gonzales v City of San Diego*, *supra*, the appellate court affirmed, observing and concluding that:

The facts underlying *Gonzales* are clearly distinguishable from those we confront here. The protective services voluntarily assumed by the City in *Gonzales* were active and ongoing and of the character to induce reasonable public reliance. In comparison here, the passive nature of a series of warning signs is designed simply to warn the people to take care if they assume the risk in using the unimproved public property in its natural condition. In *Gonzales*, once the City voluntarily assumed the duty of providing lifeguard services, it induced public reliance upon the expertise of those who provided the lifeguard service in detecting and warning of the existence of dangerous rip currents, latent in character to the majority of the unknowing, swimming public. However, here are not hidden dangerous conditions, but rather an undisguised cliff openly dangerous to all.

As discussed above, *Gonzales* was abrogated by Govt C §831.21, which provides as follows:

(a) Public beaches shall be deemed to be in a natural condition and unimproved notwithstanding the provision or absence of public safety services such as lifeguards, police or sheriff patrols, medical services, fire-protection services, beach cleanup services, or signs. The provisions of this section shall apply only to natural conditions of public property and shall not limit any liability or immunity that may otherwise exist pursuant to this division.

(b) This section shall only be applicable to causes of action based upon acts or omissions occurring on or after January 1, 1988.

Cases have continued to distinguish, discount, or disagree with *Gonzales* insofar as other "natural condition" contexts are concerned. For example, the courts in *Bartlett v State* (1988) 199 CA3d 392, 245 CR 32, and *Mercer v State* (1987) 197 CA3d 158, 242 CR 701, held that the immunity of Govt C §831.2 barred actions claiming that the dangerous condition of natural sand dunes at a state off-road vehicle park caused injury to a park user. Further, these cases jointly stand for the proposition that the immunity is not lost by charging admission fees, limiting access to the park, erecting signs, or providing minimal improvements such as toilets. See *Bartlett v State* (1988) 199 CA3d 392, 398, 245 CR 32, 34; *Mercer v State* (1987) 197 CA3d 158, 167, 242 CR 701, 706. The court in *Mercer* pointed out that erection of signs warning of the dangerous nature of the dunes would not constitute a voluntary assumption of a public protection service removing immunity. See 197 CA3d at 170, 242 CR at 708 (in effect distinguishing *Gonzales*).

In *Geffen v County of Los Angeles* (1987) 197 CA3d 188, 242 CR 492, plaintiff was rendered a permanent quadriplegic when he dove into the ocean at a public beach and struck a submerged sandbar. Plaintiff testified that had he observed a sign warning of the dangers of diving, he would not have done so. The court of appeal affirmed a nonsuit and dismissal of plaintiff's complaint, holding that the immunity of Govt C §831.2 was a complete bar to the action. The court observed that "*Gonzales* represents an unwarranted restriction of sovereign immunity and should not be followed." 197 CA3d at 194, 242 CR at 495. Counsel should heed these and other post-*Gonzales* cases because the legislative abrogation of *Gonzales* (Govt C §831.21) is only prospective in application. 197 CA3d at 194, 242 CR at 495. See also *Morin v County of Los Angeles* (1989) 215 CA3d 184, 263 CR 479 (immunity applied under §831.2 when plaintiff dived into sandbar in shallow water at public beach); *City of Santa Cruz v Superior Court* (1988) 198 CA3d 999, 1005, 244 CR 105, 108 (criticized *Gonzales* and held city absolutely immune under Govt C §831.2 for injuries sustained by plaintiff when he dove into shallow river under city's control).

The immunity conferred by Govt C §831.2 for injuries caused by the natural condition of unimproved public property extends to an artificial reservoir, when either human conduct or an artificial improvement of

the facility causes the dangerous physical condition. *Keyes v Santa Clara Valley Water Dist.* (1982) 128 CA3d 882, 180 CR 586 (plaintiff permitted to amend complaint to allege that submerged object in reservoir, which caused injuries to plaintiff swimmer, was artificial condition outside immunity of Govt C §831.2).

A public land trust may, under specified conditions, be considered a "public entity" entitled to immunity from liability for injuries caused by natural conditions of its unimproved property. Govt C §831.5, reproduced in Supp App and discussed in Supp §3.7.

Appendix C: Glossary

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Cross Grade	The slope across the width of a trail which allows for drainage.
Culvert	Concrete, wood or metal structure that allows for the flow of drainage or a stream which is installed where natural drainage flow would be altered as a result of road work, trails or other grading.
Puncheon	A wood structure laid on the ground for the purpose of crossing wet areas. Usually consists of stringers, decking and often a soil or loose gravel tread on top of decking.
Turnpike	A mounded earth tread surrounded by wood to retain the soil, with swales on both sides of the tread for drainage, which raises the trail tread above wet or soggy areas.
Water Bar	A device to divert water from the trail tread of a sloping trail in order to decrease velocity and volume of water flowing down the trail, thus reducing erosion.
Wet Crossing or Ford	A natural stream or creek crossing which has been improved to allow crossing by trail users. In crossing, the bicyclist and walkers may get slightly wet.

Appendix D: Bibliography

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Appendix E: Plans & Maps

The following maps can be reviewed at the City of
Orange Community Development Department:

Handicapped Access Map
General Plan Bicycle Trails Map
Aerial Key Map
Trail Numbers Key Map
Phase One Map

Recreational Trails Master Plan (1" = 1000')