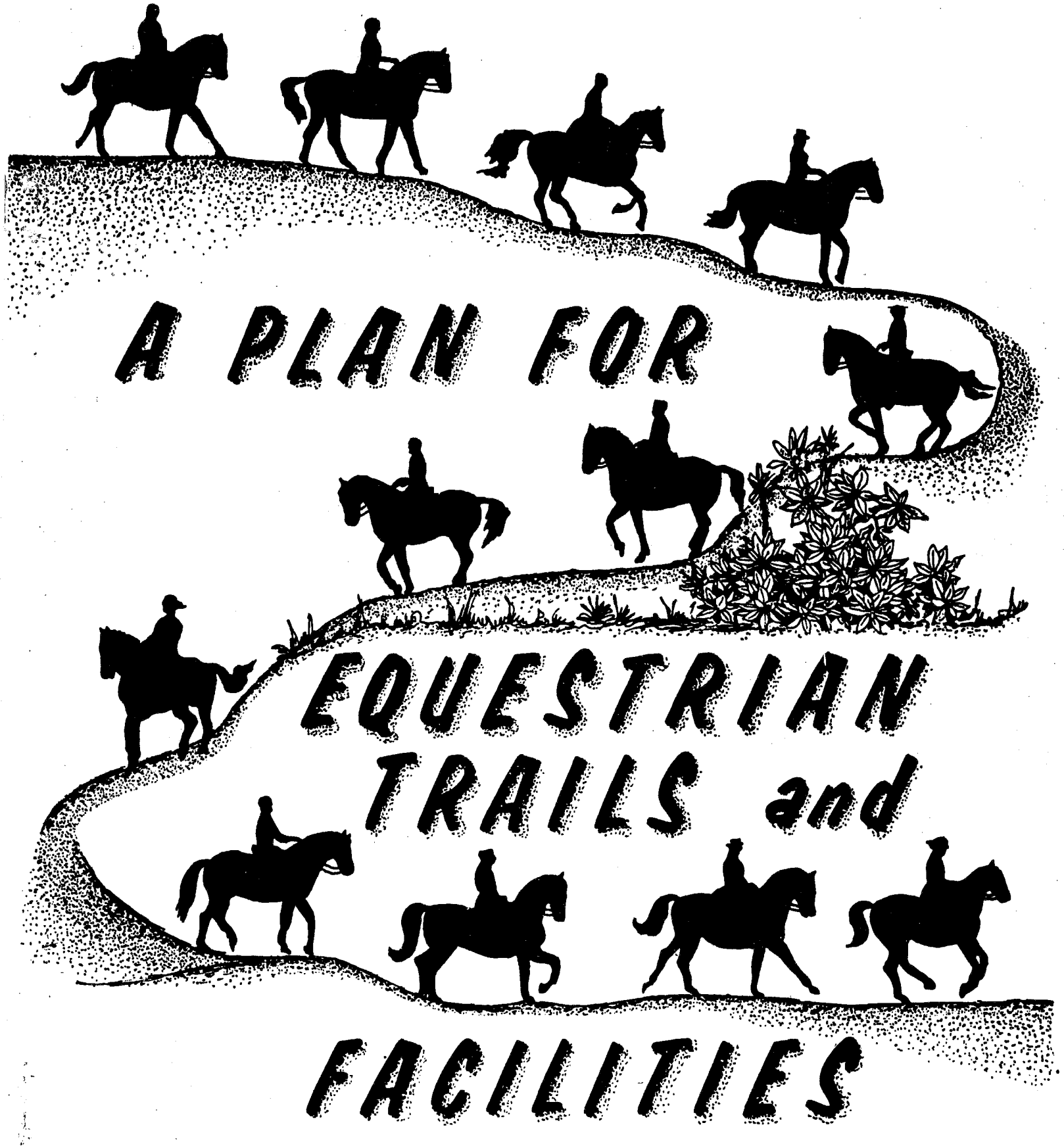


A PLAN FOR EQUESTRIAN TRAILS and FACILITIES

CITY OF SAN DIEGO PLANNING DEPARTMENT

A PLAN FOR EQUESTRIAN TRAILS

AND FACILITIES

City of San Diego

City of San Diego Planning Department
City Administration Building
Community Concourse
San Diego, California 92101

Approved by the Planning
Commission on October 16, 1974
under Resolution No. 261

Adopted by the Council
on February 6, 1975
under Resolution No. 212583

CITY OF SAN DIEGO

MAYOR

Pete Wilson

COUNCIL

F. Gilbert Johnson
Maureen O'Connor
Lee Hubbard, Jr.
Leon Williams
Floyd L. Morrow
Bob Martinet
Jim Ellis
Jim Bates

CITY ATTORNEY

John W. Witt

CITY MANAGER

Kimball Moore

PLANNING COMMISSION

Louis Wolfsheimer, Chairman
Homer Delawie, Vice Chairman
Joan Dahlin
James Floyd
Vernon Gaston
Oscar Padilla
Ron del Principe

PLANNING DEPARTMENT

James L. Goff, Director
Jack Van Cleave, Assistant Director
Max J. Schmidt, Supervising Planner

CONTENTS

Page

BACKGROUND 1

The Growing Phenomenon 1

Meeting the Need 3

Accommodating Equestrian Trails Within the City of San Diego 3

GOALS 5

RECOMMENDED EQUESTRIAN TRAILS AND FACILITIES 5

RECOMMENDED DESIGN CRITERIA 12

RECOMMENDED MAINTENANCE CRITERIA 14

IMPLEMENTING THE PLAN 14

Scheduling of Trail Development 14

Financing the Planned System 15

Construction and Maintenance Costs 16

THE NEED FOR ACTION 16

SELECTED BIBLIOGRAPHY 17

MAPS

1 Schematic Distribution of Horses, 1974 2

2 Pacific Crest Trail and Proposed County Major Equestrian Trails . . . 4

3 Proposed Equestrian Trails and Facilities 6

BACKGROUND

In May, 1967, the City Council adopted a report, Trails for San Diego, which presented a program for the development of bicycling, hiking, and equestrian trails. However, since that time, the local horse population has significantly increased and shifted its loci, development in certain areas has preempted opportunities for equestrian trails, the projected open space system has been revised, and there has been a renewed interest in horseback riding. Recently, the City Council directed that the equestrian portion of Trails for San Diego be updated.

The Growing Phenomenon

Horseback riding is currently making a strong comeback in the United States. One national weekly recently reported that:

> From a low point of 3 million in 1959, the horse population in America has zoomed to about 8 million and is expected to double that number by 1980 . . . .
>
> . . . . . .
>
> The reason for the boom is that more and more affluent city dwellers with substantial leisure time are turning to the horse for recreation. . . .
>
> Estimates by U.S. Department of Agriculture officials are that as many as 50 million Americans are equestrians. The total is expected to reach about 80 million by 1977. Spurring the interest is a fast-increasing group of young riders . . . .[1]

San Diego County is sharing in the equestrian boom, although the number of horses maintained here is difficult to ascertain. However, the County Veterinarian required compulsory inoculation for sleeping sickness in 1971. On the basis of the 22,000 inoculations administered at that time, Mr. Herbert Weisheit, University of California Agricultural Extension Service, estimated that there are now 27,000 horses in the County.[2]

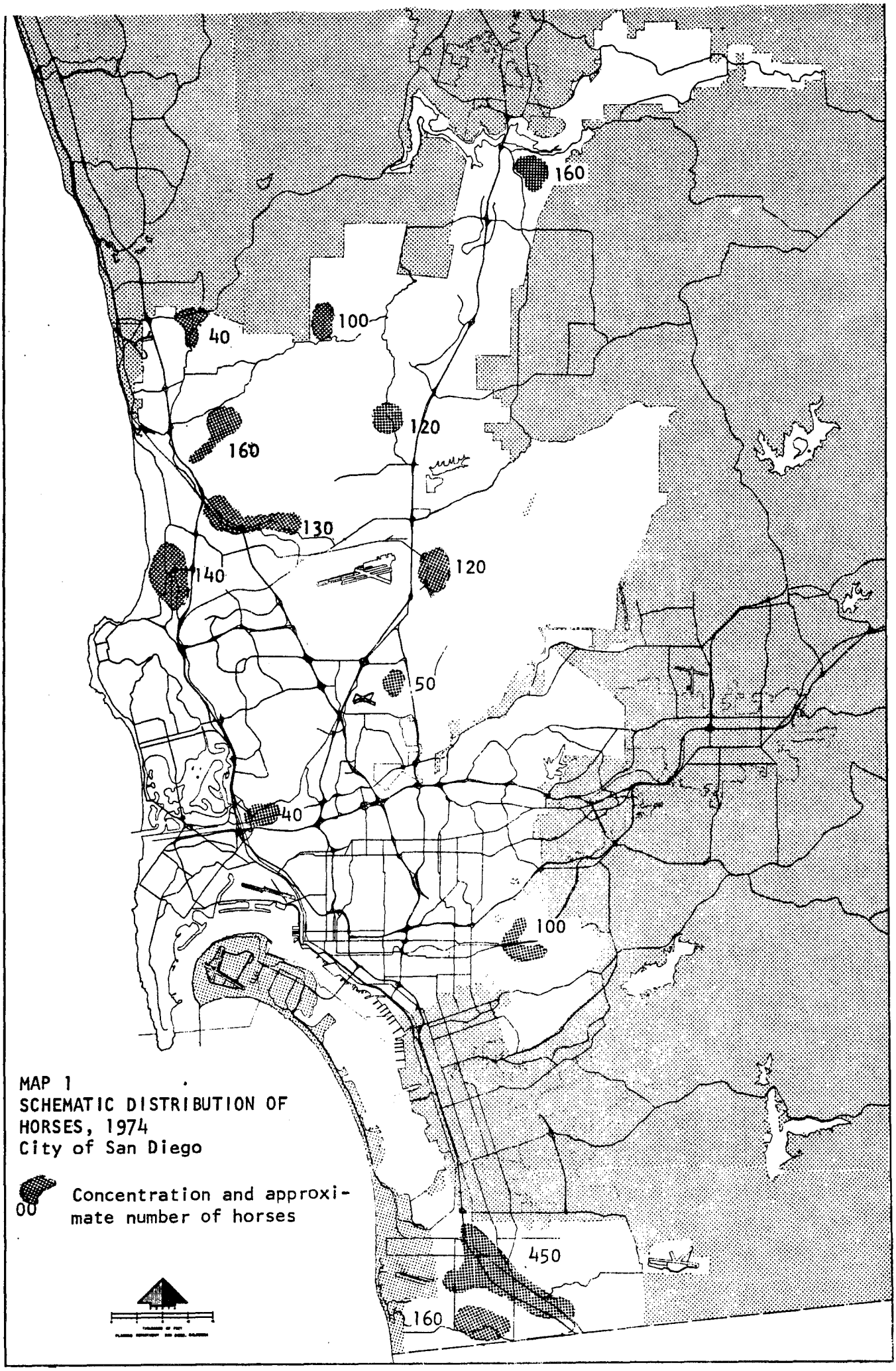
Information on the number of horses within the City of San Diego is more readily verifiable through a review of mandatory horse permits, supplemented by field observations. Approximately 1,800 horses are maintained in the City in 1974, compared with 1,200 horses in 1966.[3] Map 1 shows the present distribution of horses.

---

[1] "Again the Cry 'Get a Horse,'" U.S. News & World Report, August 27, 1973, p.68.

[2] Telephone conversation with Mr. Herbert Weisheit, University of California Agricultural Extension Service, March 15, 1974.

[3] Statistics include race horses, show horses, and breeding stock which would not be potential users of an equestrian trail system.



MAP 1
SCHEMATIC DISTRIBUTION OF
HORSES, 1974
City of San Diego

Concentration and approximate number of horses

Meeting the Need

To meet the increasing demand, federal, state and county agencies are planning and developing equestrian trails. The Pacific Crest Trail, established by the "National Trails System Act" adopted in October, 1968, will extend from the Canadian to the Mexican border (and will pass through San Diego County). At the state level, there are presently 75 miles of trails within the Cuyamaca Rancho State Park. Although the concept of a state-wide California Riding and Hiking Trail has been abandoned,[4] the County of San Diego has incorporated the alignment in a preliminary plan for a county-wide network of horse trails (see Map 2).

Accommodating Equestrian Trails Within the City of San Diego

In San Diego's earlier days, horsemen roamed more or less freely across the open countryside. However, expanding urbanization and the construction of streets and freeways now present increasingly formidable barriers to equestrians. Within the City of San Diego the best potential for accommodating horseback riding would seem to be the adopted Open Space Plan.[5] The projected open space system of more than 50,000 acres, by virtue of its internal linkages, would effectively lend itself to the establishment of an integrated network of equestrian trails.

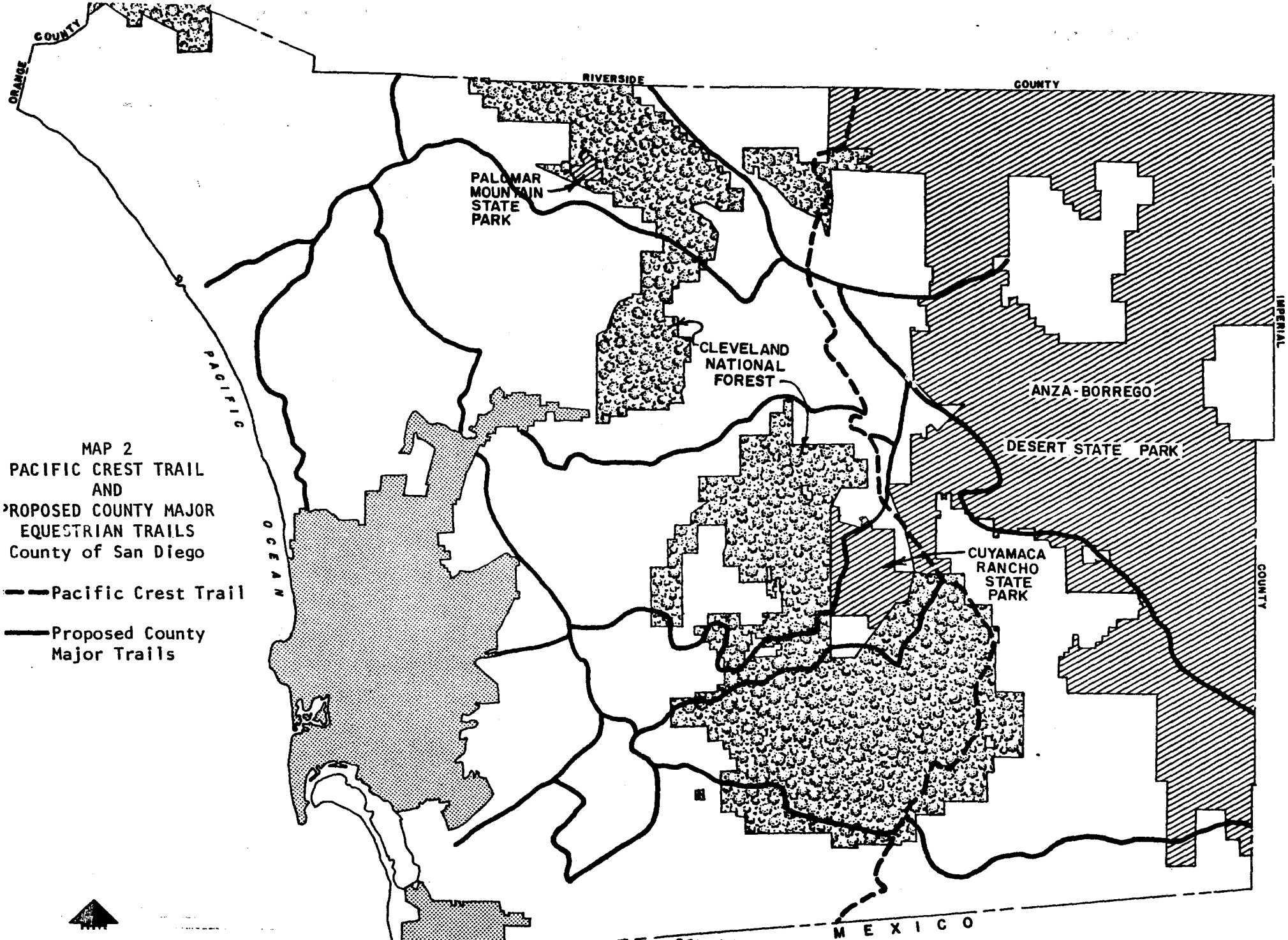
By locating the trails within the open space system, particularly within the areas recommended for acquisition and retention under public and semi-public ownership, the cost and problems of acquiring separate trail rights-of-way are minimized. Furthermore, because the foundation of the open space system is the stream canyons and valleys, the opportunity to pass under streets and freeways via bridges or drainage culverts is enhanced. Also, the east-west orientation of these canyons and valleys facilitates connection with the Pacific Crest Trail, the Cleveland National Forest, and Cuyamaca Rancho State Park. Lastly, the scenic and natural beauty and the rural character of much of the proposed open space system are part of the riding experience sought by most horsemen.

Other opportunities for facilitating an integrated trail network are the utilization of excess highway rights-of-way, and utility easements for sewer, water, or electrical transmission lines. In many cases, however, the use of utility easements is difficult because of their ruggedness of topography and their traversal by major streets or freeways. Furthermore, it would be necessary to secure additional subordinate easements covering trail purposes from the owners of the underlying fee titles.

---

[4] Letter from Ronald D. Rawlings, State of California Park and Recreational Trail Specialist, to H. M. Taylor, San Diego County Engineer, January 15, 1973.

[5] City of San Diego Planning Department, A Plan for the Preservation of Natural Parks for San Diego, April, 1973.



MAP 2
PACIFIC CREST TRAIL
AND
PROPOSED COUNTY MAJOR
EQUESTRIAN TRAILS
County of San Diego

SOURCE: COUNTY OF SAN DIEGO, PLANNING DEPARTMENT, MAP NO. 87, TRAILS SUBELEMENT OF THE GENERAL PLAN, JUNE 1973 (UNPUBLISHED)

GOALS

In this revision of San Diego's plan for equestrian trails and facilities, the goals articulated below served as guiding principles:

- A TRAIL SYSTEM THAT IS REASONABLY CITY-WIDE IN EXTENT AND CONVENIENTLY ACCESSIBLE TO ALL EQUESTRIANS DESIRING ITS USE.
- A TRAIL SYSTEM THAT AFFORDS TRIPS OF VARYING LENGTH AND INTER-CONNECTS WITH THE TRAIL NETWORKS OF ADJACENT JURISDICTIONS AS WELL AS WITH COMMUNITY OR OTHER SUBSIDIARY TRAILS WITHIN THE CITY.
- A TRAIL SYSTEM THAT PROVIDES A SUBSTANTIAL VARIETY OF RIDING EXPERIENCE IN TERMS OF TERRAIN, SCENERY, AND POINTS OF INTEREST.
- A TRAIL SYSTEM THAT RESPECTS, AS WELL AS CAPITALIZES UPON, THE NATURAL ENVIRONMENT.
- A TRAIL SYSTEM THAT HAS MINIMAL POTENTIAL CONFLICTS WITH MOTOR VEHICLES AND LIMITED EXPOSURE TO OTHER HAZARDS.
- A TRAIL SYSTEM THAT IS RELATIVELY INEXPENSIVE TO ESTABLISH AND TO MAINTAIN.

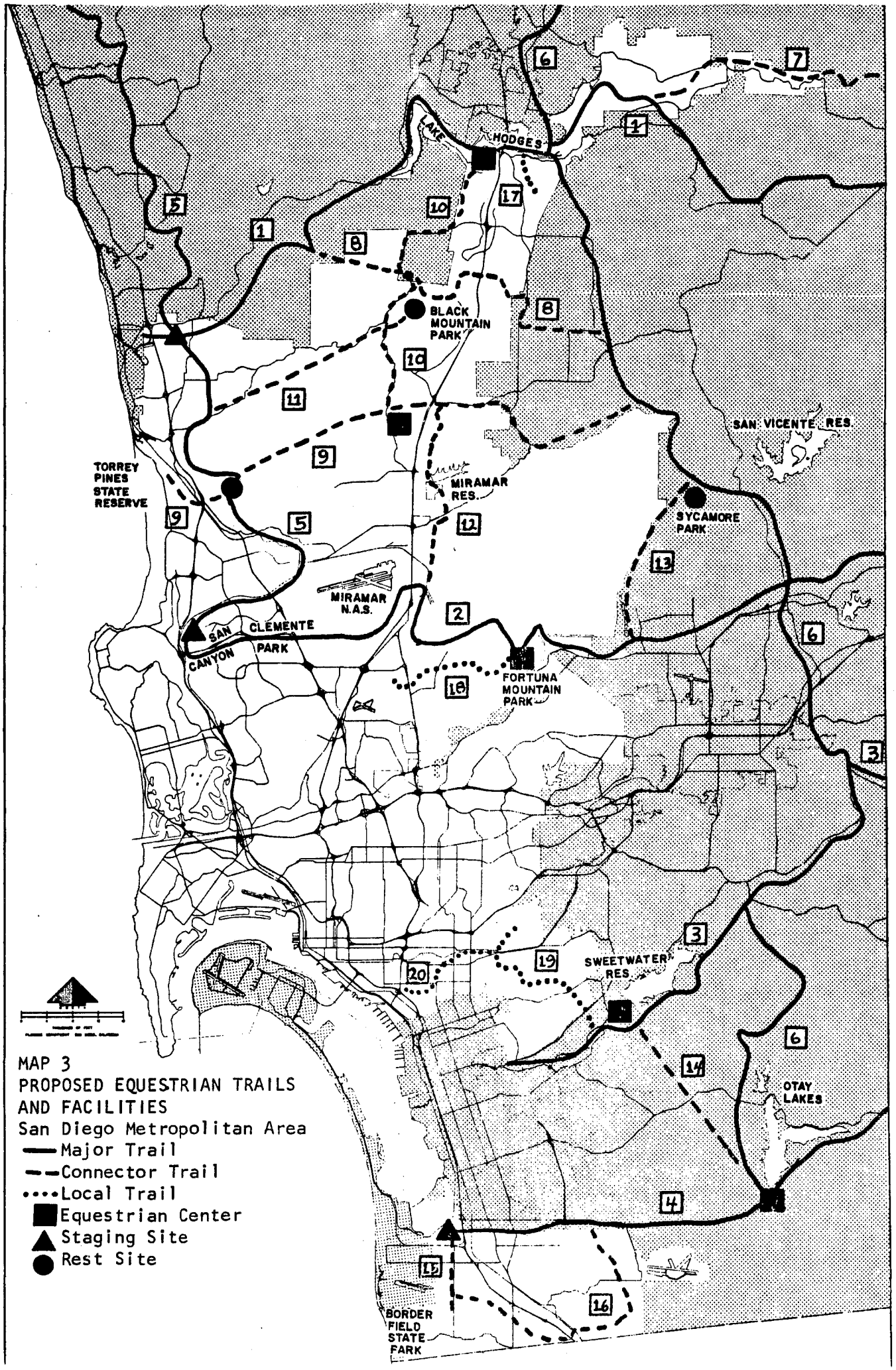
RECOMMENDED EQUESTRIAN TRAILS AND FACILITIES

Map 3 shows the location of the equestrian trail system and associated facilities proposed within and adjacent to the City of San Diego. The trail system is divided into three groups; major trails which are extensions of the County-wide major trail system into the City; connector trails which provide access to major equestrian attractions and/or provide the opportunity for loop rides; and local trails which join areas of horse concentration to the major and connector trail system. The Plan also recommends the location of equestrian centers, staging sites, and rest sites. It should be emphasized that the following described trails and facilities will require some acquisition of rights-of-way, agreements with other public agencies, and precise design studies to determine optimum locations. It should also be noted that inclusion of trails and facilities located outside the City of San Diego does not constitute approval by the particular governing body concerned.

Major Trails

Five major trails are recommended as extensions of the county-wide major trail system into or through the City of San Diego. The combined length of these major trails within the City is approximately 54 miles. A sixth regional trail (Sweetwater), while not actually entering the City, would also serve local horsemen.

The proposed Lake Hodges Trail (No. 1) would be part of a regional trail extending from the County fairgrounds in Del Mar to the Pacific Crest Trail near Julian. This trail would present pleasing topographical contrasts between the wide valleys of San Dieguito and San Pasqual and the narrow gorge below Lake Hodges. Moreover, it would pass through the most productive agricultural valley (San Pasqual) in the entire county. The trail



MAP 3
PROPOSED EQUESTRIAN TRAILS AND FACILITIES
San Diego Metropolitan Area

- Major Trail
- Connector Trail
- Local Trail
- Equestrian Center
- Staging Site
- Rest Site

would also pass close to the San Diego Wild Animal Park and several historic sites, including the San Pasqual Battlefield, Mule Hill, and the San Bernardo Store and Stage Station. Approximately seventeen miles of trail would be within the City of San Diego, including fourteen miles on land already owned by the City. Most of this land is leased for agricultural purposes; thus it is important that the trail respect the integrity of the various leaseholds. The remaining three miles within the City would lie within an area proposed for open space acquisition in the vicinity of Interstate 5. Essential to the continuity of this trail is a ten mile segment of the San Dieguito Valley which lies outside the City of San Diego.

The proposed Fortuna Mountain Trail (No. 2) would be the western segment of a regional trail extending from Rose Canyon to the Pacific Crest Trail in the Cleveland National Forest. Approximately eighteen miles of the trail would lie within the City of San Diego, almost exclusively on publicly owned lands.

At its western end the proposed trail would pass through San Clemente Canyon Park, which is characterized by a floodplain of varying width, steep south slopes, and dense stands of old sycamore and oak trees. Due to the narrowness of the park, the specific location and design of the equestrian trail should be carefully studied in order to avoid conflicts between picnickers, hikers, bicyclists, and other park users. In fact, horses should be restricted to designated equestrian trails in all City parks. Such a restriction would necessitate a change in the Municipal Code which currently permits horses on any road or path.[6]

East of Interstate 805, the trail would traverse U.S. Navy lands intended to serve as a buffer between Miramar Naval Air Station and adjoining urban development to the south. Between I-805 and I-15, the preferred trail would lie within San Clemente Canyon and would pass near a small reservoir and the Navy's proposed campground. However, because the Commanding Officer of NAS Miramar has objected to this alignment, a less desirable alternate route has been identified which would parallel Route 52. Prior to departing the easterly City limits, the trail would traverse Fortuna Mountain Park and San Diego State University's Natural Preserve, and pass near the Padre Dam National Historic Landmark.

The suggested Sweetwater Trail (No. 3) would extend easterly from Bonita Valley, where many horses are now stabled, to the Imperial County line. Although the trail would not enter the City of San Diego, it would serve horses stabled in nearby Encanto. Abundant natural vegetation along the proposed trail consists of eucalypti in Bonita Valley and alders, sycamores, and oaks in the upper Jamacha Valley. Significant geographical features along the trail would include Sweetwater Reservoir and San Miguel Mountain.

The proposed Otay Trail (No. 4) would be the western segment of a regional trail extending from Palm City to the San Felipe Valley, where it would connect with the Pacific Crest Trail. The Otay Trail would originate west of Interstate 5 and extend easterly past Lower Otay Lake. Within Otay Valley, the trail would pass sand and gravel processing plants, agricultural

---

[6] San Diego Municipal Code, Section 63.02.2.

uses, and isolated residences. The lakes area is characterized by a high valley basin surrounded by rolling hills and scattered eucalypti, with the Peninsular Mountains in the background.

Approximately three miles of the Otay Trail would lie within the City of San Diego. Although all of the subject land is currently in private ownership, approximately 2 1/2 miles of trail would lie within an area proposed for open space acquisition.

El Camino Real Trail (No. 5) would extend from the western end of San Clemente Canyon northerly to Guajome Regional Park north of Vista. Seven of the fifteen miles of trail within the City of San Diego would be located on publicly-owned land or utility easements, and the other eight miles would lie within areas proposed for open space acquisition. The most scenic portions of this trail would be within Soledad Canyon and Rose Canyon with their mature sycamore and oak trees.

To avoid a developing industrial complex and an at-grade crossing of Miramar Road, the trail should pass under the proposed new railroad overcrossing. Unfortunately, two other hindrances on that segment of trail linking Rose and Soledad Canyons are not so easily surmounted; namely, an at-grade rail spur crossing and extremely loud aircraft noise. However, the connection of El Camino Real and Fortuna Mountain Trails and the provision of access to the City's inner areas are highly desirable objectives that should be pursued.

The San Vicente Trail (No. 6) would begin at Lower Otay Lake and would extend northerly to Riverside County. An approximately one mile segment of the trail would pass through the City of San Diego in the San Pasqual Valley area on publicly-owned land. Major attractions in close proximity to the trail include the Otay Lakes, San Miguel Mountain, San Vicente Lake, and Sycamore Park.

Connector Trails

Eight connector trails are proposed within the City of San Diego to provide access to major equestrian attractions and/or provide the opportunity for loop rides. Two additional connector trails are suggested outside of the City to facilitate the movement of local horsemen. Approximately 59 miles of the recommended connector trails would lie within the City.

The proposed San Pasqual Trail (No. 7) would connect the Lake Hodges Trail with the Cleveland National Forest. The suggested five miles of trail within the City would lie entirely on City-owned land leased for agricultural purposes.

The thirteen mile Bernardo Trail (No. 8) would connect the Lake Hodges Trail and the San Vicente Trail. The suggested route would proceed southwesterly from the San Dieguito Valley along Lusardi Creek, through the La Jolla Valley which contains the ruins of the Butterfield Stage Station, pass near Black Mountain Park, and then extend through an open space corridor to the City limits. The 6 1/2 miles of trail in the City would be within open space areas proposed for limited development under zoning and/or acquisition initiated through private means. Within the county, the trail would proceed southerly along Pomerado Road and then easterly along the general alignment of Twin Peaks Road to the San Vicente Trail.

The proposed eighteen mile Los Penasquitos Trail (No. 9) would connect the San Vicente and El Camino Real Trails. The trail would serve the large horse populations presently within Los Penasquitos Canyon and in nearby Sorrento Valley, and provide access to Torrey Pines State Reserve.

The major portion of the trail would be located within Los Penasquitos Canyon, a proposed regional park noted for its exceptional vegetation, scenic topography, and historical sites. Of the thirteen miles of trail which would lie within the City, approximately ten miles would be within areas proposed for open space or park acquisition. Approximately one mile of trail would lie within the Torrey Pines State Reserve, but so routed as to skirt the marsh and other fragile areas. To connect Los Penasquitos Canyon and Torrey Pines State Reserve would necessitate the acquisition of about two miles of right-of-way across land remaining in private ownership.

The proposed 11 1/2 mile Black Mountain Trail (No. 10) would connect the Lake Hodges and Los Penasquitos Trails. The suggested route would proceed northerly from Los Penasquitos Trail utilizing about 4 1/2 miles of the existing Black Mountain Road right-of-way, and would skirt the base of Black Mountain. The trail would then proceed northerly through the proposed Rancho Bernardo open space system to the Lake Hodges Trail and a proposed equestrian center described in a subsequent section of this report.

The proposed Carmel Valley Trail (No. 11) would connect the Black Mountain and El Camino Real Trails and would provide access to the top of Black Mountain, which is the most prominent landmark in the North City area and offers outstanding vistas. The 8 1/2 mile trail would lie primarily within the Carmel Valley floodplain which is recommended for open space acquisition.

The proposed 6 1/2 mile Miramar Trail (No. 12) would connect the Fortuna Mountain and Los Penasquitos Trails and would provide convenient access to the U.S. Navy's Miramar stables. Approximately two miles of the proposed trail would be within the confines of military lands. North of Pomerado Road the proposed trail would pass through Scripps Ranch via a fifty-foot wide aqueduct easement. The trail would then proceed north across the Miramar Reservoir dam and through an open space area proposed for limited development under zoning and/or acquisition initiated through private means. The Miramar Trail would join Los Penasquitos Trail southeast of the I-15 Poway Road interchange.

The entire 6 1/2 mile Sycamore Trail (No. 13) would lie within the County of San Diego. The trail would begin at the Fortuna Mountain Trail in the San Diego River Valley, pass adjacent to the Santee Lakes, traverse Sycamore Canyon, and connect with the San Vicente Trail in Sycamore Park.

The proposed 5 1/2 mile Proctor Valley Trail (No. 14) would connect the Sweetwater, San Vicente, and Otay Trails. It would use the northern segment of Proctor Valley Road as well as a 130-foot wide San Diego County Water Authority aqueduct easement.

The Nestor Trail (No. 15) would connect the Otay Trail and the Border Field State Park (which has an existing horse trail network)at Sunset Street. The proposed trail would also serve the large horse population in the Nestor area. Due to the existing subdivision pattern,a separate horse trail would

be difficult; therefore, the 19th Street right-of-way is recommended for this two mile connector trail. It is clearly recognized, however, that the sharing of rights-of-way by motor vehicles and horses can be hazardous. Furthermore, the City Attorney has issued an opinion that the City generally incurs a greater liability for maintaining a dangerous condition with respect to dedicated streets and sidewalks than for nondedicated improved trails.[7]

The proposed Border Trail (No. 16) would connect the Otay Trail and the Nestor Trail. This nine mile trail would also serve a large horse population in the border area. Approximately two to three miles of trail could be constructed as part of the proposed Tia Juana River Valley flood control dike which is currently being studied. Approximately five miles of rights-of-way across private land east of Interstate 5 would have to be acquired to complete the trail.

The trail would cross I-5 via the existing Beyer Boulevard overcrossing and would pass under the San Diego and Arizona Eastern Railway utilizing a proposed street undercrossing. Again, the potential danger, as well as the possible liability to the City should be noted with respect to this trail.

Local Trails

Four local trails are proposed to join areas of horse concentration to the major and connector trail systems. Fourteen miles of the recommended local trails would be within the City.

The suggested Possum Canyon Trail (No. 17) would connect the Lake Hodges Trail to the Rancho Bernardo Saddle Club and the Bernardo Trails subdivision. The latter, with its integreted system of ten foot wide trail easements, was specifically designed to accommodate residents desirous of maintaining horses on their lots. The Possum Canyon Trail, less than a mile long, would lie within a Rancho Bernardo proposed open space corridor and publicly owned lands adjacent to Lake Hodges.

The proposed five mile Shepherd Canyon Trail (No. 18), which would be entirely within the City, would connect an existing riding stable on Kearny Mesa with the Fortuna Mountain Trail. The trail would proceed down into Murphy Canyon, pass under the proposed Interstate 15 freeway utilizing a drainage culvert, and extend up the mountainside to the Fortuna Mountain Trail. Shepherd Canyon and Fortuna Mountain Park are already in public ownership, necessitating the acquisition of less than one half mile of right-of-way west of Interstate 15.

The proposed 6 1/2 mile Encanto Trail (No. 19) would provide horsemen with access to the Sweetwater Trail. Of the 5 1/2 miles of trail within the City of San Diego, approximately three miles would be within areas recommended for open space acquisition. More than one mile of trail would be located within street rights-of-way, both improved and unimproved. The remainder of the trail within the City would require acquistion of additional rights-of-way.

---

7 Memorandum of Law: Potential City Liability Associated with Equestrian Trails, John W. Witt, City Attorney, October 11, 1973.

The proposed 3 1/2 mile South Chollas Trail (No. 20) would extend southwesterly from the Encanto Trail to Interstate 5. The entire trail would lie within the South Chollas Creek floodway, which is proposed for acquisition as open space. The trail would pass through a portion of the South-Crest Park and Recreation Center.

Equestrian Centers

To enable nonhorse owners to enjoy the trails and to broaden the activities available to all equestrians, it is recommended that equestrian centers be located at strategic points along the trails. Such centers should include rental horse facilities, boarding stables, a riding arena, sleeping areas for overnight camping, corrals and hitching rails, picnic facilities, fire rings, parking facilities for vehicles and horse trailers, rest rooms, and potable water. Organized activities at equestrian centers should generally include scheduled trail rides, pack trips, nature study programs, and camp fire entertainment. Large sites of twenty acres or more in size would be necessary to accommodate the above facilities and activities.

It is recommended that equestrian centers be established within the following existing or proposed regional parks: Lake Hodges, Los Penasquitos, Fortuna Mountain, Sweetwater, and Otay. If leased for private operation, the terms of the lease or contract with the City should include provisions designed to protect the public land involved from erosion, damage to vegetation, unsightly storage areas, excessive signs, and litter. In this regard, the posting of performance bonds by the private operator might prove desirable.

Additional equestrian centers may also be considered on privately owned lands. However, whether privately owned and/or operated, all equestrian centers must be unreservedly nondiscriminatory in making their services and facilities available to the public.

Staging Sites

Staging sites are highly desirable at the beginning or end of a trail ride. Failure to provide such facilities may result in the indiscriminate use of parks for staging, often in conflict with other park uses. Such areas should generally provide parking facilities for at least ten vehicles and ten horse trailers, hitching rails, corrals, potable water, telephones, and rest rooms.

Within the City of San Diego three separate staging sites are recommended to supplement the comparable facilities proposed within equestrian centers. These staging sites are proposed to be located at the southern or western termini of major trails and near freeway interchanges to facilitate access. The Lake Hodges Trail staging site is recommended southeast of the Interstate 5 - Via de la Valle interchange, where it would also serve as a staging site for El Camino Real Trail. A staging site near the Interstate 5 - Gilman Drive interchange would provide convenient access to both the Fortuna Mountain and El Camino Real Trails. The third staging site is recommended northwest of the Interstate 5 - Palm Avenue interchange, and would serve equestrians wishing to enter or leave the Otay Trail.

All three staging sites are to be located in proposed open space areas. Therefore, building and site design should be compatible with the topography and vegetation of such areas so as to enable them to retain their basic open space character. For the same reason, suitable landscaping should be provided.

Rest Sites

Rest sites are generally necessary where the trail ride exceeds ten to twelve miles in length. These areas should provide potable water, rest rooms, hitching rails, a telephone, and picnic facilities.

To minimize construction and maintenance expense and vandalism, it is proposed that trail riders utilize facilities within existing or proposed regional parks. Three such rest sites, in addition to the rest facilities provided at equestrian centers and staging sites, have been identified. Their locations include Black Mountain Park, the proposed Los Penasquitos Canyon resource-based park, and Sycamore Canyon Park. The only additional facilities required at each park would be a hitching rail and water trough. The rest sites combined with the equestrian centers and staging sites would bring the total number of rest areas within the San Diego area to eleven. As trail usage increases, additional rest site locations may warrant consideration.

RECOMMENDED DESIGN CRITERIA

The following design criteria are based upon guidelines developed for the Pacific Crest Trail[8] as modified to reflect local conditions and a consensus of opinions derived from interviews with local horsemen.

Alignment. Trail alignment should be preceded by an examination of the terrain to be traversed for the purposes of identifying, and determining a means of preserving, any unique physical and biological resources located thereon. The trail should then be "fitted" to the ground so that it both respects and advantageously displays the natural environment.

The trail's alignment should generally follow the contours of the land. When changing elevation, the trail should angle across the natural slope of the hillside rather than proceeding directly up or down. In addition to offering an easier grade of travel, this would minimize the likelihood of severe erosion occurring.

Trails should be aligned to eliminate the need for sharp switchbacks; however, if these are unavoidable, measures should be taken to prevent erosion of the trail and adjoining slopes. The most desirable alignment for a switchback utilizes a topographic feature as a turning point so that it does not appear to be "carved" out of the hillside. Provisions for screening and protecting switchbacks with trees or brush should be incorporated in the design when these cannot be constructed around natural topographic features.

---

[8] U.S. Department of Agriculture - Forest Service, The Pacific Crest Trail - Guide for Location, Design and Management, Washington, D.C. U.S. Government Printing Office, May, 1971.

Grade. As a general rule, the trail should not be steeper than ten percent (10-foot rise in 100 linear feet). Grades may exceed ten percent if the steeper grade does not impair servicability, safety, and trailside esthetics. No trail grade should be so steep that erosion is a problem. Trail grades should be lessened at approaches to switchbacks, and the turns should be as nearly level as practicable.

Tread Dimensions. Generally, the trail tread should have a width of ten feet to facilitate passing and riding two abreast and to accommodate emergency vehicles. Six feet is the minimum width which will allow horses to pass. Where this cannot be managed, three feet should be the absolute minimum tread width.

Clearance. The minimum overhead clearance should be twelve feet above the trail surface, and the minimum horizontal clearance should be twelve feet in order to permit a trail tread of ten feet. These criteria should apply to the construction of underpasses, as well as the clearing of projecting limbs, brush, downed logs, debris, and sapling trees. However, these criteria may be modified where it is desirable to protect unique vegetation in natural parks or other open space areas.

Fencing. Where fencing is desirable or mandatory, the minimum distance between paralleling fences should be fifteen feet.

Right-of-Way. Where rights-of-way across private property are to be acquired, the minimum width should generally be fifteen feet.

Trail Surface. Common soil loosely packed is the most desirable material for a trail. Rock, gravel, cinders, and concrete are unsatisfactory because they are likely to injure horses' hooves and legs and cause accidents.

Drainage. The flow of water should be controlled and removed from the trail at intervals in order to prevent standing water and erosion of the trail surface.

Structures. Structures should be designed to harmonize with the surrounding environment. Materials used for structures generally should be of a quality to permit long life. Raised sections, retaining walls, and footbridges may be built of suitable native materials if these are available near the site. When native materials are used, the site from which they were removed should be left with a natural appearance.

Signs. Regulatory, informative, and interpretive signs should be erected along the trail where necessary to ensure the comfort and safety of the user, or to add to his enjoyment. Insofar as possible, signs should be standard along the entire length of the trail. They should be constructed of materials, such as redwood, which minimize maintenance and which blend into the surrounding natural environment.

Vehicular Barriers. To prevent unauthorized vehicular access to the trails, barriers such as 4" x 4" timbers should be mounted vertically at trail entrances; and signs should be placed indicating that vehicles are prohibited on the trails.

RECOMMENDED MAINTENANCE CRITERIA

Since the trails are to be kept in a natural state they should involve a minimum of maintenance. Periodic trail maintenance would include trimming foliage, policing of major obstacles and litter, and correcting erosion. Maintenance also would include the upkeep of staging sites and the replacement or repair of damaged signs.

To reduce the potential health hazard and offensive odors, animal wastes would have to be removed frequently at staging sites or wherever large numbers of horses would be concentrated. Frequent clean-up would also be necessary along those portions of the trail system which pass through parks or urbanized areas.[9]

IMPLEMENTING THE PLAN

Scheduling of Trail Development

The following factors should be considered in scheduling the development of specific trail segments:

- Public ownership of open space areas. Trails within publicly-owned open space areas should be given top priority in order to avoid the expense of acquiring rights-of-way. Existing examples of such open space areas include San Pasqual Valley, Lake Hodges, portions of Miramar Naval Air Station, Fortuna Mountain Park, and San Diego State University's Natural Preserve.

- Construction of public works. High priority should also be given to trails which can be constructed in conjunction with other public works, such as the proposed Tia Juana River Valley flood control dike and Interstate 15 between State Routes 52 and 163.

- Coordination with trails of other jurisdictions. The City should cooperate with the county or other municipalities when the opportunity arises to construct equestrian trails that cross jurisdictional boundaries.

- Balanced distribution. Every effort should be made to balance the distribution of trail development among the various equestrian-oriented areas.

- Major trails versus connector trails. The development of major trails should be given higher priority than that of connector trails. Upon completion, major trails will provide the opportunity for local short-distance riding as well as long-distance riding.

- Potential usage. Priority should be given to those proposed trails that would be in proximity to horse concentrations.

- Continuity. Short trail segments which unify other trail segments should also receive high priority. Fragmented trails are obviously not as functional as continuous trails. In this regard, the trail through San Clemente Canyon should not be constructed until its connection to Fortuna Mountain Park is assured.

---

[9] Interview with Gerald Quick and Dr. Whitford, Sanitation Division, San Diego County Department of Public Health, January 11, 1974.

Financing the Planned System

To ensure the orderly development of the major and connector trail systems, it is recommended that funds be set aside annually in the Capital Improvements Program utilizing a combination of monies from the Park and Recreation Bond Fund, Gasoline Tax Fund, and profits from the proposed equestrian centers. Additionally, creation of a fund based upon an annual head tax on pleasure horses should be considered.

According to a recent opinion of the State Attorney General, motor vehicle fuel taxes may be used ". . . . for the construction and maintenance of . . . . equestrian . . . trails separated from but adjacent to or approximately paralleling existing or proposed highways . . . where such separation increases the traffic capacity or safety of the highway."[10] For example, the Gasoline Tax Fund could be used to construct and maintain the Nestor Trail separated from the traffic lanes of 19th Street.

The State of California Government Code states that ". . . a county or regional park district may levy a countywide or districtwide tax, respectively, on horses, mules, or other animals used substantially for pleasure riding or trail use, not to exceed ten dollars ($10) per animal per year, for the privilege of access to and use of public areas designated for use by such animals."[11]

Expenditures by State agencies, the County of San Diego, and other municipalities in the metropolitan area also would be necessary to complete those segments of the trail system located outside the jurisdiction of the City of San Diego or within parks not operated by the City. The latter would include Torrey Pines and Border Field State Parks and the proposed Los Penasquitos County Regional Park.

Local trails, which are intended to join areas of horse concentration to the major and connector trail systems, would be of interest primarily to local horsemen. Therefore, those benefitting should bear the financial responsibility for such trails.

---

[10] 56 Ops. Cal. Atty. Gen. 243, June 6, 1973.

[11] Article 14, Chapter 4 of Part 1 of Division 2 of Title 5 of the State of California Government Code, enacted September 4, 1969.

Construction and Maintenance Costs

Based on unit costs[12] established by the Community Development Department, it is estimated that the total construction cost for the trails and facilities which would be borne by the City would be approximately $930,000. This cost assumes 105 miles[13] of trails; twenty miles of brush clearance, grading, and drainage; thirty miles of fencing; 100 signs; three staging sites; and hitching rails and water troughs for one rest site.

The Park and Recreation Department for the City of San Diego estimates that 105 miles of trails, signs, and three staging sites could be maintained by a fulltime crew of four men (two two-man crews). The estimated cost for maintenance, including motive and miscellaneous equipment requirements, would approximate $44,500 per year, or approximately $400 per linear mile.[14]

THE NEED FOR ACTION

Despite the substantial increase in the number of horses within the City and County of San Diego, the opportunities for horseback riding are clearly diminishing as urbanization proceeds. Rather obviously, effective concerted action is needed now to reverse this latter trend. For unless a comprehensive equestrian trail system is established soon, an increasingly popular form of recreation may well be denied to future San Diegans.

---

[12] The following unit costs were included in a memorandum dated March 19, 1974, from the Community Development Department: brush clearance - $.30 per linear foot ($1,584 per mile) as needed; grading - $.43 per linear foot ($2,270 per mile) as needed; drainage - $.40 per linear foot ($1,500 per mile) as needed; fencing - $4 per linear foot ($21,120 per mile) as needed; signs - $100 each; staging sites - $60,000 each; hitching rails for rest site - $100 each; and water troughs for rest site - $100 each.

[13] This figure excludes approximately eight miles of trail that would lie within state and county parks and would therefore not constitute the City's financial responsibility to construct or to maintain.

[14] Interview with Bill Van Orden, Park and Recreation Department, January 7, 1974.

SELECTED BIBLIOGRAPHY

Ashbaugh, Byron L., and Kordish, Raymond I. Trail Planning and Layout. New York, New York; National Audubon Society, 1971.

Brooks, Mary E. Planning for Urban Trails. Chicago, Illinois: American Society of Planning Officials, 1969.

City of San Diego Planning Department. A Plan for the Preservation of Natural Parks for San Diego, San Diego, California, April, 1973.

Comprehensive Planning Organization, San Diego Region. Open Space Plan and Implementation Program (preliminary report). San Diego, California, August, 1973.

County of San Diego. Program for the Development of a County-wide Trail Network (unpublished report). San Diego, California, 1973.

Los Angeles City Planning and the Department of Recreation and Parks. Major Equestrian and Hiking Trails Plan. Los Angeles, California, 1968.

Los Angeles County Regional Planning Commission. Regional Recreational Areas Plan. Los Angeles, California, 1965.

National Horse and Pony Youth Activities Council. Guidelines for Horsemen and Their Communities: Zoning. Washington, D.C., October 10, 1973.

National Horse and Pony Youth Activities Council. Horses and Land-Use Planning. Washington, D.C., October 10, 1973.

The Open Lands Project and Council of Governments of Cook County. Urban Trails: A Tremendous Recreational Opportunity. Chicago, Illinois: University of Illinois, 1970.

U.S. Department of Agriculture - Forest Service. The Pacific Crest Trail -- Guide for Location, Design and Management. Washington, D.C.: U.S. Government Printing Office, May, 1971.

Vogel, Charles. Trails Manual. San Mateo, California: Charles Vogel, 1968.

TEXT

David A. Potter

EDITING

M. David Smith

GRAPHICS

Anthony J. Pluth
Ernest Tamayo

TYPING

Roberta Diaz
Mary Havanis