

UNIT 546

KENNETH HAHN STATE RECREATION AREA

GENERAL PLAN

August 1983



~~STATE~~
L. W. WARD

State of California
Department of Parks and Recreation

**BALDWIN HILLS
STATE RECREATION AREA**

**GENERAL
PLAN**

by

County of Los Angeles
Department of Parks and Recreation

STATE OF CALIFORNIA
DEPARTMENT OF PARKS AND RECREATION

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GENERAL PLAN

June 1983

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DEPARTMENT OF PARKS AND RECREATION

STATE PARK AND RECREATION COMMISSION

P. O. BOX 2390, SACRAMENTO 95811



Resolution 55-83
adopted by the
CALIFORNIA STATE PARK AND RECREATION COMMISSION
at its regular meeting in Los Angeles on
August 12, 1983

WHEREAS, the Director of the Department of Parks and Recreation has presented to this Commission for approval the proposed General Plan for Baldwin Hills State Recreation Area; and

WHEREAS, this reflects the long-range development plans to provide for the optimum use and enjoyment of the unit as well as for the protection of its quality;

NOW, THEREFORE, BE IT RESOLVED that the State Park and Recreation Commission approves the Department of Parks and Recreation Baldwin Hills State Recreation Area General Plan, dated June 1983, subject to such environmental changes as the Director of Parks and Recreation shall determine advisable and necessary to implement carrying out the provisions and objectives of said Plan.

The Commission wishes the County to continue to work with the community on the concerns voiced at this public hearing to resolve questions on safety, access, and so forth, as the development progresses.

As of January 1, 1989 now known as

KENNETH HAHN SRA

CREDITS

ACKNOWLEDGEMENTS

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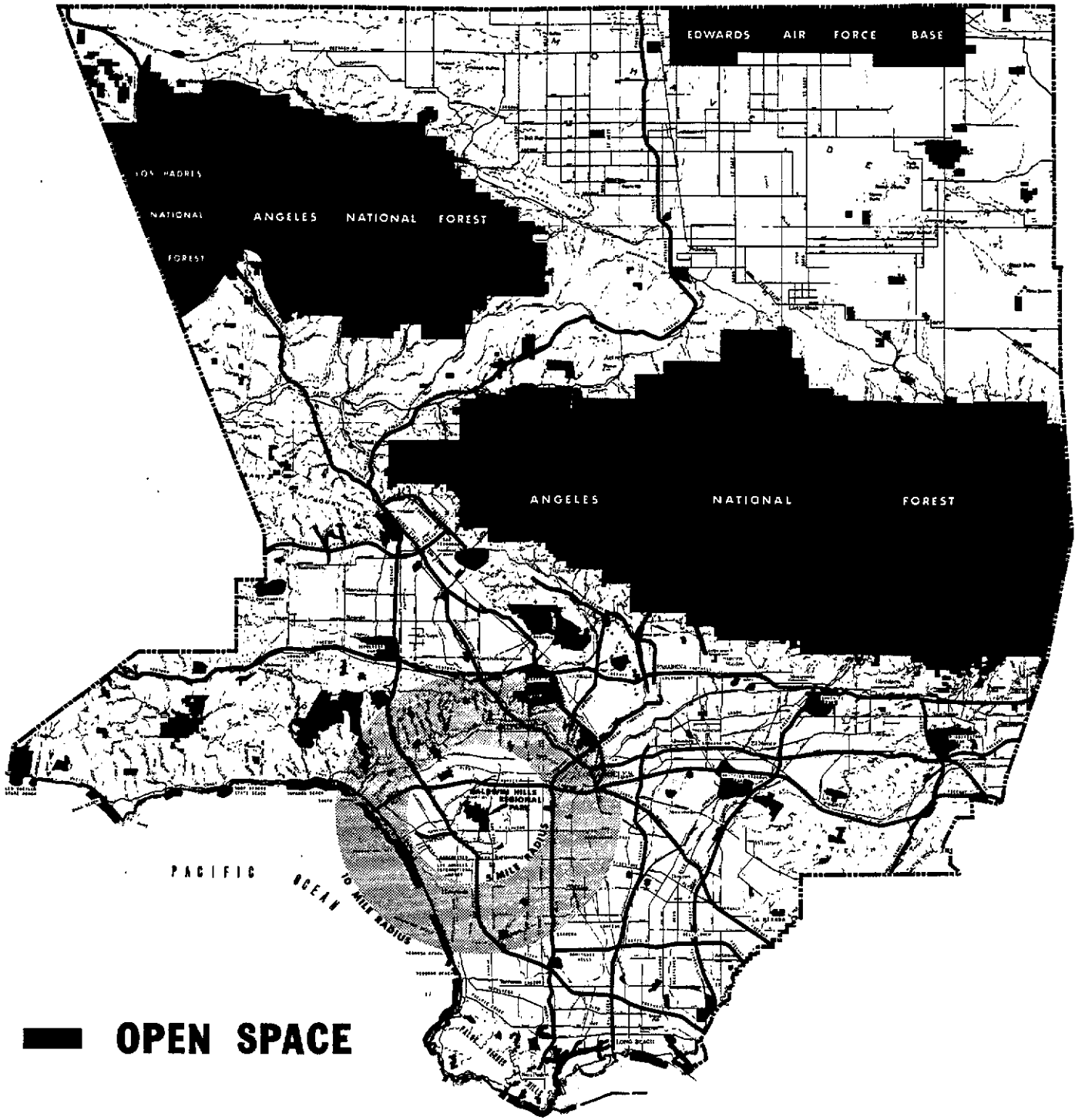
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Preface

The Baldwin Hills area contains one of the last remaining large undeveloped areas in the west central basin of Los Angeles County. Intense urban development of areas surrounding Baldwin Hills has left little land available for open space. The goal has been to preserve this open space area and to develop regional recreation opportunities.

The population density of the urban area surrounding Baldwin Hills is greater than 3,861 people per square kilometer. This figure represents a higher density than in any other area of the County. This area is currently not served by any regional scale park facility. The closest regional park is Griffith Park, which is located 24 kilometers (15 miles) from Baldwin Hills State Recreation Area (SRA) via surface traffic arteries. About 2.5 million people live within 16 kilometers (10 miles) of the SRA.

This report contains the SRA's General Plan and its key elements including a resource element which establishes objectives and policies for use of the natural and cultural resources of the unit; a land use and facilities element which sets forth special proposals for development; an interpretive element which establishes a primary theme and setting for the SRA; and an operations element which would provide short and long term proposals in regards to resource protection and facilities maintenance.



NORTH



REGIONAL LOCATION

BALDWIN HILLS STATE RECREATION AREA

INTRODUCTION

Purpose of Plan

The Baldwin Hills State Recreation Area General Plan is designed to serve as a guideline for all proposed development. The purpose is to provide policies for the development of recreation and interpretive facilities and for the preservation of the natural resource values. Since it is the valuable open space character of Baldwin Hills that inspired its classification as a recreation area unit, the primary emphasis of this document is placed on recreational potential that would be in harmony with this setting.

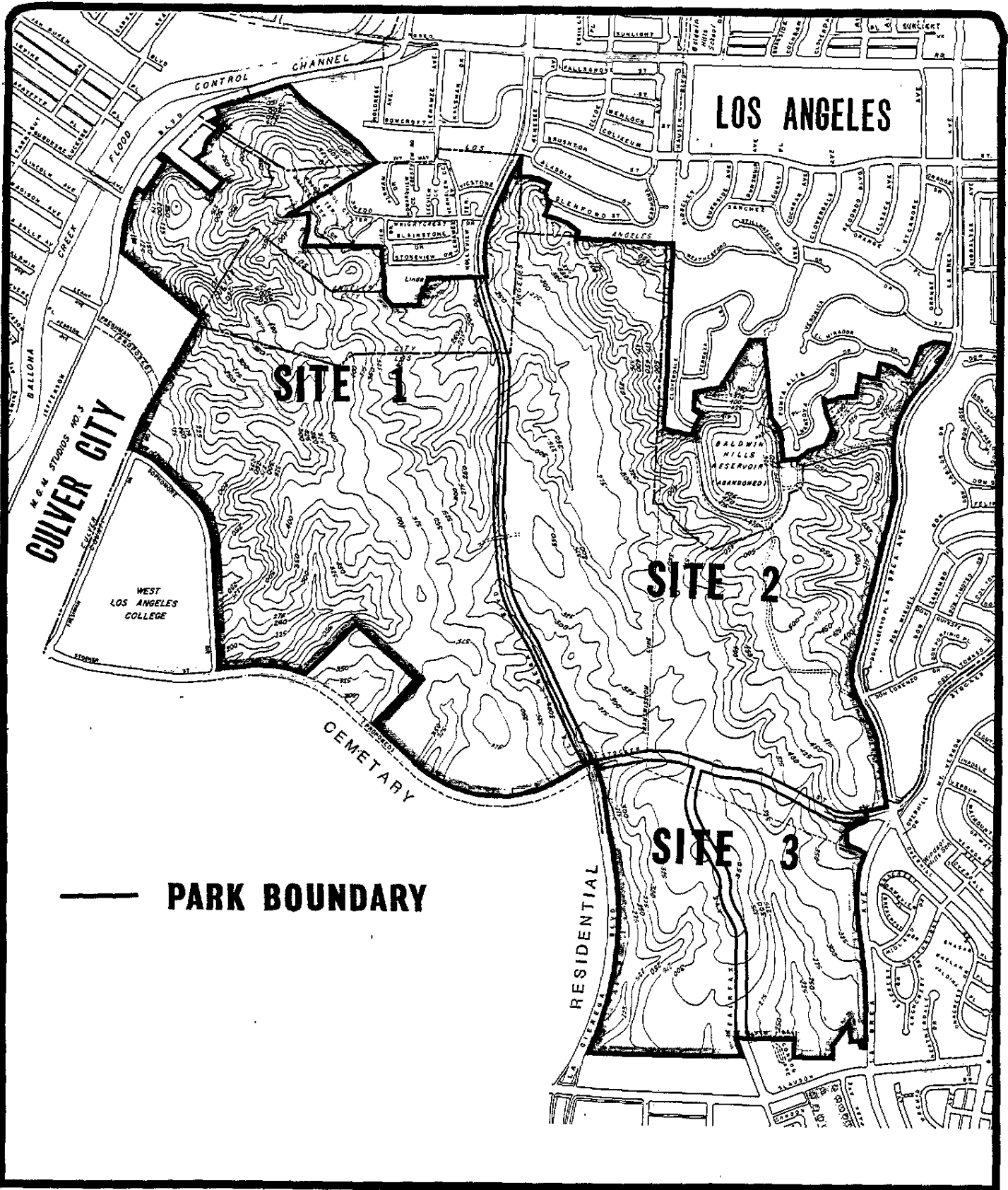
There are two fundamental qualities of this report that commonly characterize a general plan. First, it is comprehensive, since it represents a thorough investigation of all known natural and cultural resources. Second, it is flexible. If new resource information becomes available, the plan can be modified to reflect current conditions.

Project Description

Baldwin Hills State Recreation Area (SRA) is located in the unincorporated area of Los Angeles County, 6.4 kilometers (4 miles) east of the Pacific Ocean. The SRA contains approximately 95 hectares (234 acres) in the northern portion of Site 2 (see below), a 5 hectare (13 acre) connector road segment and a proposed 27 hectares (65 acres) in the eastern portion. Acquisition of the remainder of the project would be desirable to preserve the open space value of the area.

The overall project area, 524 hectares (1,295 acres), has been divided into three sites for ease of identification. Site 1 consists of 234 hectares (578 acres) and its borders are along La Cienega Boulevard for 1.7 kilometers (1.1 miles), Jefferson Boulevard for 0.8 kilometer (0.5 mile) and the proposed extension of Stocker Street for 1.6 kilometers (1 mile). Site 2 consists of 211 hectares (521 acres) and its borders are along La Cienega Boulevard for 2 kilometers (1.3 miles), La Brea Avenue for 1.7 kilometers (1.1 miles) and Stocker Street for 9.6 kilometers (6 miles). Site 3 consists of 79 hectares (196 acres) and its borders are along La Cienega Boulevard for 0.9 kilometer (0.6 mile), La Brea Avenue for 0.8 kilometer (0.5 mile), Stocker Street for 0.8 kilometer (0.5 mile).

Although surrounded by dense urban development, the Baldwin Hills State Recreation Area is easily accessible. Two major freeways, Interstate Highway 405 (San Diego) and Interstate Highway 10 (Santa Monica) are 5.6 kilometers (3.5 miles) to the west and 3.2 kilometers (2 miles) to the north, respectively and are linked to the project by La Cienega Boulevard to the west, La Brea Avenue to the east, and Stocker Street to the south.



NORTH



0 400 1200 1600 feet

PROJECT AREA

BALDWIN HILLS STATE RECREATION AREA

The SRA is made up of a northwest-trending ridge with intervening canyons on the east, steep faces rising from the adjacent central valley of Site 2 on the west and gently sloping hills to the south. Coastal Sage Scrub vegetation dominates the canyons and slope areas of the unit.

The Newport-Inglewood Fault is one of the most interesting natural features of the SRA. The numerous fracture zones projecting from this main fault, on the surface are easily detected by the variations in the topography of the SRA.

Historical Background

The following chronological periods are designated by the apparent differences in various subsistence strategies and associated technological developments: Millingstone Horizon or Early Period (7,000 to 4,000 B.P.), Intermediate Horizon or Middle Period (3,500 to 1,500 B.P.) and Late Horizon or Period (1,500 to 200 B.P.). European colonization occurred from A.D. 1540 to 1771 followed by three distinct periods to the present: the Mission Period (A.D. 1771 to 1834), the Mexican Period (A.D. 1822 to 1846), and the Anglo Period (A.D. 1848 to Present).

Paleoenvironmental reconstruction of the general Baldwin Hills area show it to possess an environment fairly similar to today, but with more moisture and lower humidity. The area is described as a plain or open rolling country on which grew an interior, semi-arid type of vegetation where grass-covered surfaces were interspersed with copses of trees and brush, favoring the existence of a diverse population of hoof animals. In this environment, bison, horse, mylodont ground sloth, elephant, camel, and antelope would have been plentiful. Associated with these herbivores were the typical cursorial carnivores like the lion-like cat, coyote, sabertooth cat, and dire wolf. The Baldwin Hills were similar to other parts of North America where big game hunting existed. It is reasonable to assume that even without an artifactual complex present (as we have in other areas) man was exploiting the Pleistocene megafauna in this area. During the last stage of this period, it is apparent that the technological adaptations present were diverging into a more varied resource base exploitation. This is possibly due to the climatic change of the moist Pleistocene to a dry Post-Pleistocene or "Antithermal" (Antevs 1955) and over exploitation of the previous environment. In this period, Southern California populations are shifting from a big game hunting subsistence to a small game and plant gathering. Because of the drier climate, water was now less available in the desert which in turn lowered the grass resource production of the desert. This factor, as well as the changing resource base resulted in a population movement from inland deserts to the coastal areas (a more suitable environment). Environmental adaptation (in terms of settlement patterns and subsistence resources) permitted a general population increase.

The Indians inhabiting the Baldwin Hills environs just prior to Spanish contact were a Shoshonean linguistic group called the Gabrielino or Tongva. They lived there during the Late Horizon period. It is assumed that certain aspects of that heritage were retained and diffused into Southern California. More detailed information about the Tongva Indians is contained in the Inventory of Features, 1982.

The first documented instance of European contact was the 1542 voyage of Juan Rodriguez Cabrillo who was sailing up the California coast searching for a Northwest Passage to China. On October 8, 1542, Cabrillo, upon entering what is now San Pedro Harbor, sighted the smoke from many fires in the Palos Verdes Hills; thus, he names San Pedro Bay the "Bahia de los Fumos" or the Bay of Smokes. While communicating with some of the Tongva who came up to his ship in a plank canoe, he was informed that there were more "white men with beards" to the east. The Indians were probably referring to Coronado's land expeditions in Arizona and New Mexico from 1539 to 1541; a testimonial to the aboriginal communication network that the Tongva's of the coast had with the interior desert tribes. In 1769, an expedition under the direction of Captain Gaspar de Portola left San Diego to reach and supply Monterey. An important member of this expedition was Fray Junipero Serra who intended to establish a mission chain through Alto California to convert the Indians to Christianity. By the summer of 1769, the expedition reached the Los Angeles area. Pedro Fages, a Lieutenant under Portola (and future Governor of Alta California), wrote the following account of La Ballona Creek:

"Crossing the river and pursuing a west-southwest-erly direction, one arrives; after transversing three leagues of high level land, at a watering place which was named the Ojo de Agua de los Alisos (Ballona Creek, west of Cienega). It was a large spring situated in a ravine in which was growing Poplar trees of great thickness of trunk, the entire ground was covered with pasture and shrubbery, and there was some watercress" (Heizer and Whipple 1971:14).

The expedition passed through this area again on the return trip to San Diego from Monterey.

On September 8, 1771, Father Angel Somera and Father Pedro Cambon founded Mission San Gabriel where the majority of the Indians of the Los Angeles Basin (including the Baldwin Hills area) were taken; hence, the name for the Indians of historic times, Gabrielino (the native name being Tongva), is derived from this Mission. In the beginning, Indians in the immediate area of the Mission were gathered into the Mission to provide a labor force for the various supporting activities of the Mission such as building, herding, farming, weaving, and cooking. In exchange

for their labor, free food, gifts, education, and of course religion were provided to the Indians.

Inevitably, Indians from more distant areas (i.e., Baldwin Hills) were brought into the Mission system for religious and economic resources. The change or "culture shock" and subsequent exposure to European diseases (epidemics) decimated the aboriginal population and resulted in the reduction of vast numbers of Indians. Examination of the San Gabriel Mission Baptismal Records show over 7,700 baptisms and almost 7,000 deaths (most of which are buried at the Mission). To help induce settlement in Alta California, the Spanish Government instituted the practice of Land Grants of ranchos to individuals (i.e., retired soldiers) for services rendered. This practice continued through the Mexican Period when the ranchos became the major economic and political force in the territory.

In 1822, after a struggle of a dozen years, Mexico won its independence from Spain. Problems immediately occurred between the Missionaries and the "New Government". The Missionaries were still loyal to Spain and some refused to take an oath of allegiance to the new government, which, because it was economically weak, sorely needed the revenue from these Missions (San Gabriel was one of the most prosperous). In 1832, Governor Echeandia sent a request to the Mission San Gabriel for a loan of \$20,000 which was followed by an order from the Governor to secularize all the Missions, creating an Indian town or rancho at the Missions and reducing the power of the Padres. By 1836, all the Missions and their possessions (Indians included) in Alta California had now passed under the control of the Civil authorities who appropriated much of the material wealth, and sold the land to others. Since the Civil Authorities showed no concern for their welfare, the Indians were forced to become workers for the new land owners, although some were able to revert back to the "old ways" by fleeing the area.

By the end of the Mexican Period, the Indians and their culture had been virtually destroyed in Southern California by Spanish Missionization (which forced new cultural adaptations, i.e., agriculture) and extremely high death rates from disease and warfare which reduced the native population to half of what it was at the beginning of the period.

In the beginning of the 1780's, the concept of the rancho was developed. The rancho was a significant factor in Southern California from the early Mexican Republic to the present, since they represented the acculturation by a European people to a specific environment. The social and economic systems revolved around the ranchos as exhibited by the stratified nature of the Spanish, Mexican, and Indian cultures. The Spanish owners or "Gente de Razon" were the elite of the area controlling vast amounts of land which enabled them to exert a vast amount of political and economic influence. Family influence (ties) and

relatives in the Mexican civilian government permitted some families and/or small landholders to dramatically increase or gain vast amounts of land. In the Baldwin Hills area, there were three main ranchos:

1. Rancho La Ballona
2. Rancho Rincon de los Bueyes
3. Rancho Cienega O'Paso de la Tijera

In 1800, the Alcalde (mayor) of the Pueblo de los Angeles was Joaquin Higuera. His son, Bernardo, was to settle the land that joined the Rancho La Ballona on the northeast and called it Rancho de los Bueyes. The Rincon Rancho was settled in December of 1821 under Governor Noriega. The origin of Rincon de los Bueyes, "corner for cattle", is very simple and descriptive. The Rincon, meaning corner, was a natural corral created by a ravine in the Baldwin Hills (which lies just south-west of the large advertising sign of "57" at the base of Baldwin Hills). This area is an attractive area for grazing cattle with its gradual rising knolls. Shortly after Bernardo Higuera and Senor Lopez, his partner, settled the Rancho Rincon, Spanish control of California ended; henceforth, California was now under Mexican jurisdiction. The Rancho which comprised the majority of Baldwin Hills was called Rancho Cienega O'Paso de la Tijera. In 1843, Governor Manuel Micheltorena granted this Rancho to Vicente Sanchez; however, Vicente Sanchez moved back to the Pueblo de los Angeles and his son, Tomas A. Sanchez asked the Governor to partition the land of which he became the new owner.

With the advent of American ownership (1848), a population influx into California occurred by "sail, steamboat, and covered wagon". The great Spanish ranchos soon disappeared and the new owners took on a different character. With the arrival of the Americans, land ownership became a problem. The United States Land Commission was developed to review land claims from the Mexican Republic; Rancho Cienega O'Paso de la Tijera was confirmed to Tomas Sanchez. From 1860 to 1867, Sanchez served under the Americans as County Sheriff. In 1875, Sanchez sold a half interest of his Rancho for 60,000 dollars. Later he sold a fourth and finally, unable to pay off a loan from E. J. Baldwin, the Rancho was sold an auction. It was purchased along with considerable other acreage from other defaulters by E. J. Baldwin. Baldwin used the Rancho for sheep ranching even though it was unprofitable (something unusual for this Comstock Mining millionaire). Baldwin who was sometimes known as Lucky Baldwin, held his luck even after his death when oil was discovered on the property. The Baldwin heirs sold large parts of the Rancho and the Los Angeles Investment Company subdivided "tract after tract" within it's bounds.

RESOURCE ELEMENT

The purpose of the resource element is to establish long-range resource management objectives and policies necessary to protect and perpetuate the recreational, natural and cultural resources of the Baldwin Hills State Recreation Area (SRA). This element also identifies resource sensitivities and physical constraints, and establishes the department's guidelines for acceptable levels of development and use with respect to these factors and the purpose for which the SRA was established.

The scope of the resource element is limited to that portion of the project which is free of oil production operations and available for development. Specific resource management policies and programs shall be identified for the SRA consisting of the areas referred to as the "La Cienega," "Reservoir," and "La Brea" sites, a connector road segment and the proposed "Ridge" site (Site 2). Establishment of specific policies for the remainder of the undeveloped areas shall be based on resource information available at the time of acquisition.

Inventory Summary

SUMMARY OF RESOURCES AND EVALUATIONS

The following is a brief summary of the resource information contained in the Inventory of Features for the Baldwin Hills Project, compiled in 1982. Additional information is on file with the department.

NATURAL RESOURCES

Topography

The Baldwin Hills State Recreation Area is located in the western portion of the Baldwin Hills. The Baldwin Hills are situated in the west central portion of the Los Angeles Basin. They are one of a chain of northwesterly trending hills which extend 64 kilometers (40 miles) across the basin from the Cheviot Hills southeasterly to the Newport Mesa in Orange County. The entire Baldwin Hills occupy about 25.9 square kilometers (10 square miles) and are roughly equidimensional in plan. A northwest-trending pair of elongated ridges and intervening central valley dominate the physiography of the hills. To the west, north and east, the hills rise abruptly from the flat basin floor, forming steep faces, along roughly linear scarps. On the south side, however, the hills plunge gently to the south. Throughout the area, numerous canyons and valleys sharply cut the hills.

The highest elevation in the Baldwin Hills, 155.7 meters (511 feet) above sea level, is also the highest elevation along the Newport-Inglewood Structural Zone. Relief in the area, between the summit and basin floor ranges from about 122 meters (400

feet) in the north and west to between 30 to 91 meters (100 to 300 feet) in the south and east. Grading operations related to oil field activities have resulted in considerable modification of the natural topography.

Meteorology

The Maritime Fringe Climatic Region which includes the Baldwin Hills is characterized by average temperatures rarely falling below 10 or above 21 degrees Celsius (50 and 70 degrees Fahrenheit, respectively) with annual rainfall totals between 25 and 50 centimeters (10 and 20 inches). The typical wind pattern is an 11 kilometer (7 mile) per hour breeze from the west or southwest. This wind off the Pacific Ocean brings marine air into the Los Angeles Basin producing mild year-round temperatures. This region is cloudy or partly cloudy 222 days out of the year including 44 days with heavy fog allowing visibility of 0.4 kilometer (0.25 mile) or less.

The Baldwin Hills contain a variety of slope exposures and elevations, 45.7 to 152.4 meters (150' to 500'). The Median annual precipitation is 27.9 centimeters (11 inches), although wide variations occur from year to year and within short distances as a result of the topography. Most of the precipitation falls between November and April.

Due to the proximity of the unit to the ocean, air quality is frequently superior to the more inland areas. Alternating land/sea breezes serve to flush out local sources of pollution. However, inverse conditions during the spring and summer help effect a rise in local pollutant levels. In general, sea breezes mitigate the local pollutants in the area, transporting them inland and down the coast.

Hydrology

The Baldwin Hills represent the junction of the three major ground water basins: the Santa Monica Basin, the West Coast Basin, and the Central Basin Pressure Area. Major waterbearing zones in these basins surround the Baldwin Hills on all sides, although the project area, a topographic highland, is essentially non-waterbearing because it is elevated above the surrounding water table. Some of the rainfall leaves the area as runoff via the many natural drainage courses which dissect the hills.

The majority of the surficial storm runoff is contained and stored in sumps. These sumps were constructed by Standard Oil Company to store water which eventually would be treated for injection into the subterranean oil fields. Some over-flow does occur during major storms. Small waterbeds that produce low amounts of runoff that are not practical to intercept are allowed to exit the area via existing ditches and storm drain systems. This water is transported through existing storm drains into the

Pacific Ocean via Ballona Creek.

The collapse of the Baldwin Hills Dam in December of 1963 caused major flooding to the north of the SRA. The sudden release of water from the reservoir produced flow rates which greatly exceeded the capacity of the existing storm drain system. The reservoir was abandoned soon after the dam failure, and due to its location at the top of a hill, potential runoff is minor as it is produced only by rain which falls directly into the reservoir area.

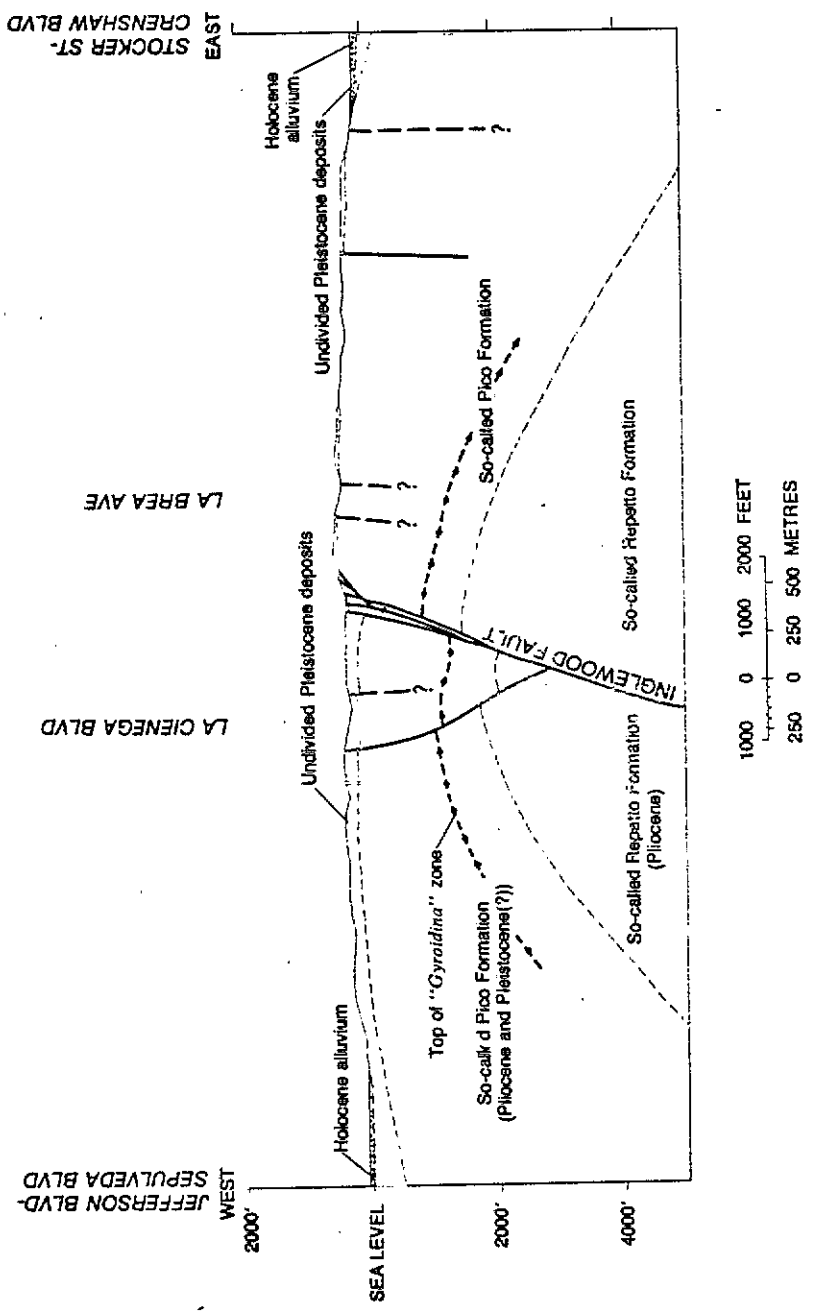
Rain is the only source of surface water runoff. Previous investigations indicate the subsurface water source is below standards. The required lifts and water treatment precludes the use of the subsurface water source for any use within the proposed scope of operations.

Geology

The Newport-Inglewood Structural Zone is one of the major geological structural elements in the Los Angeles Basin, stretching 40 miles from the Cheviot Hills southeasterly to Newport Mesa where it continues offshore, roughly paralleling the coastline. The zone is not a single fault, but rather a complex series of faults, and both surface and subsurface structures. However, at great depth in the basement complex, it is believed, there is a master through-going fault, the Newport-Inglewood Fault. Movement along this master fault is believed to have caused the deformation in the overlying sedimentary rocks of the Newport-Inglewood Structural Zone. On the ground surface, this deformation is expressed by a linear series of low, eroded en-echelon fault scarps and a chain of low, right-hand en-echelon anticlinal hills and mesas. As a result of this deformation, numerous oil traps such as the Wilmington, Signal Hill, and Inglewood Oil Fields, have been formed. Within the zone there are several well documented faults, including the Inglewood, Charnock, Avalon-Compton, Cherry Hill, and others.

Deformation in the Baldwin Hills is believed to have started between 10 to 26 million years ago during middle Miocene time or possibly earlier. It continued at least intermittently through Quaternary time and is still occurring. Recent deformation is evidenced by the prominent Inglewood Fault scarp, arching and offset of Pleistocene (geologically young) deposits, and by other youthful topographic features of the hills. The uplifted Baldwin Hills were formed by the warping of Tertiary and Pleistocene sedimentary deposits, as a result of movement along the Newport-Inglewood Structural Zone. The gently arched deposits were shaped into an elongated northwest trending, doubly plunging anticline or dome. Later, or during formation of this dome, it was fractured by numerous faults.

In the Baldwin Hills, the Inglewood Fault is the main structural



GENERALIZED GEOLOGIC SECTION OF THE
 NORTHERN BALDWIN HILLS (CASTLE & YERKES, 1976)

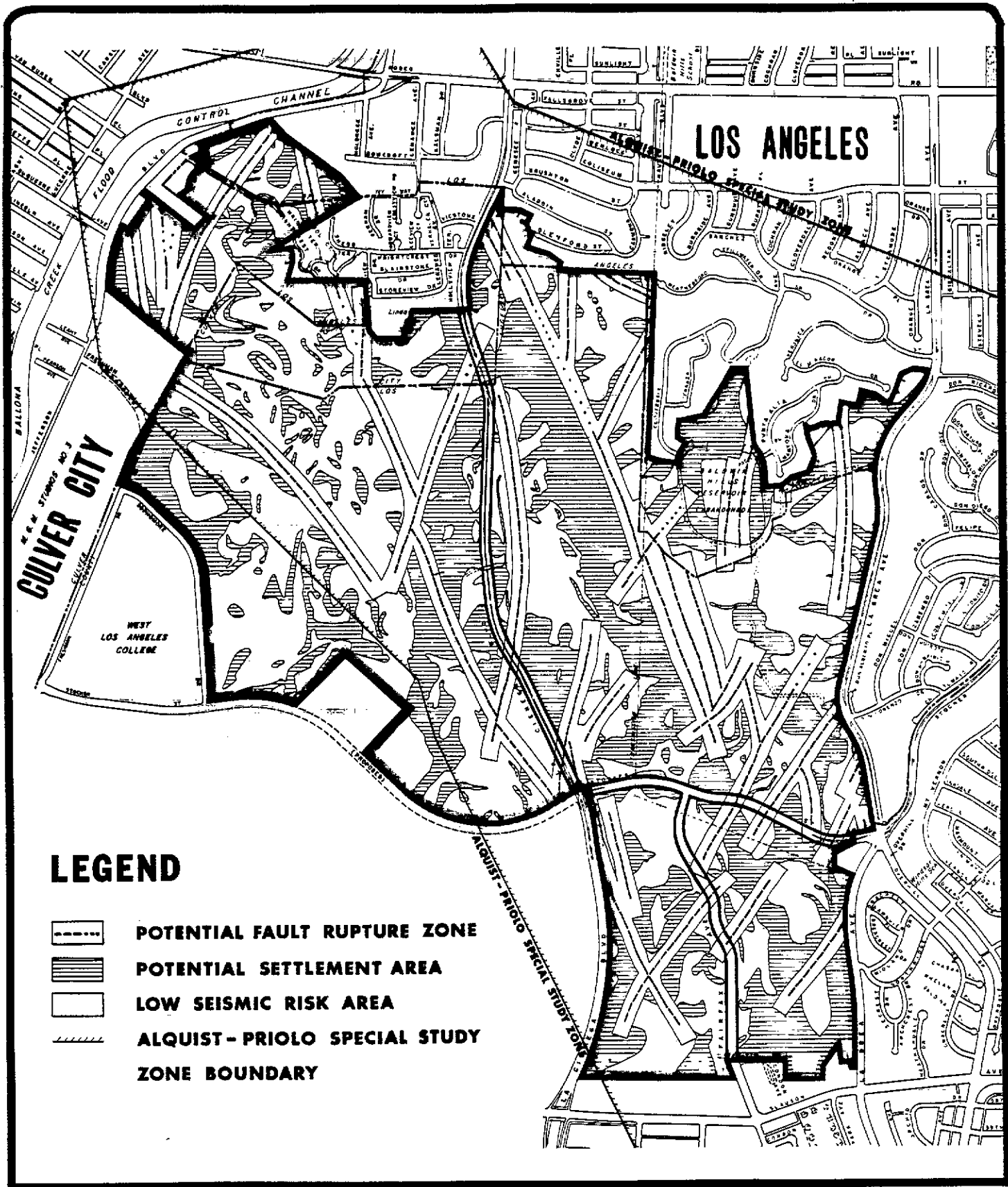
feature. It extends for at least 9 miles northwesterly from Rosecrans Hills through the Baldwin Hills to the Beverly Hills area. It is actually a zone ranging from a few meters to 183 meters (600 feet) wide of fractures with a main break. Another zone of fracturing parallels this zone to the west. Numerous small en-echelon faults dissect, offsetting slightly, loose parallel faults. The main fracture of the Inglewood Fault is located in the central portion of Site 2 along the east side of the northwest trending central valley, where it forms a prominent 84 meter (275 foot) high scarp.

Slope failures in the Baldwin Hills have occurred in the form of landslides and erosion, associated with unusually heavy winter rainfall. The landslides have consisted principally of surficial debris slides ("mudslides," including soil slips) and debris flows ("mudflows"). These failures are derived partly from the mantle of soil and slope wash that overlies the bedrock of natural slopes and partly from weathered bedrock and fill. Slopes underlain by the Inglewood Formation are particularly vulnerable to surficial slides and flows, because the surficial mantle developed on bedrock of this formation contains abundant clay material. Deep-seated land sliding as a cause of damage has been uncommon, although ancient landslides, previously unrecognized, were mapped.

Occurrence of artificial fill in the Baldwin Hills area is varied and extensive. Thin narrow strips of artificial fill are found along the sides of many access roads throughout the area. Larger concentrations, ranging up to major canyon fills, are also found in the area. Composition of the artificial fill varies from petroleum waste products and inorganic trash to imported material from surrounding communities in the larger fills.

Subsidence, or vertical downward movement, of the ground surface related to operation of the Inglewood Oil Field has affected the site. The primary effect of the subsidence is decrease of ground surface elevations with some associated horizontal movements. Secondary geologic effects are earth cracking and fault displacements. Other relatively minor destructive effects include cracking of pavement and retaining walls as well as possible breaking of utility pipes.

Historic damaging earthquakes have occurred along the Newport-Inglewood structural zone, but not in the SRA study area. The closest of these occurred on June 21, 1920, probably on the Inglewood fault, and surely within the Newport-Inglewood structural zone. The magnitude of the Inglewood earthquake was calculated later by Richter (1970) at 4.9. Though of small magnitude, the earthquake may have caused damage locally, because it occurred at a relatively shallow depth. Small earthquakes in the area in recent years have occurred at relatively shallow depths of 4.8 to 8 kilometers (3 to 5 miles).



NORTH



SEISMIC ZONE

BALDWIN HILLS STATE RECREATION AREA

Standard Oil Company of California developed the Inglewood Oil Field in September of 1924. The oil field includes 477.5 hectares (1,180 acres) in the western part of the Baldwin Hills. The Inglewood Fault bisects the oil field into two separate components known as the east and west blocks. Although abandonment of individual wells has continuously occurred, the oil field will probably not reach its economic limit until sometime past the year 2000.

Soils

According to the United States Department of Agriculture (USDA), the soils series in the Baldwin Hills are generally 1.5 meters (60 inches) thick including a surface layer of about 0.45 meters (18 inches) and subsoil of about 0.75 meters (30 inches) thick. The substratum forms the rest of the soil and is underlain by bedrock or a change in sediment type. The surface layer usually contains organic matter. The amount varies according to distance from a source area. The subsoil is generally redder than the surface soil, more dense and compact, and ranges in texture from clay loam to clay. The soils are a reflection of the underlying bedrock. Where the clay loam predominates, the underlying bedrock consists of fine sand, siltstone and claystone of the Pliocene Pico Formation. Loam pre-dominates where the Pleistocene aged San Pedro and Inglewood Formations become exposed. Variations may occur as a result of topography. Soil type development may be disrupted or contaminated by the admixture of material from another source such as erosion material from upslope or by windblown deposition.

Colluvium conceals the traces of the Inglewood Fault in the vicinity of the proposed connector road. The colluvium consists of dark reddish-brown, moist, dense clayey sand and is expected to be less than 6.1 meters (20 feet) thick. Alluvial fan deposits underlie the fill in the vicinity of the western end of the proposed connector road. The alluvial fan deposits consist of yellow-brown, moist, and dense sandy silt. Portions of the deposit are moderately well indurated and are poorly bedded. The secondary ridge is capped with up to 4.6 meters (15 feet) of ancient soil called the Fox Hills Relict Paleosol. The deposit resembles alluvial terrace deposits and is called a cap deposit. The paleosol consists of poorly sorted brown to red-brown, moist, dense clayey sand and gravel.

Soils investigations in the Baldwin Hills area have identified areas of contaminated soils resulting from both drilling and oil production activities. The contaminants include various types of grease and oils associated with the performance and maintenance of a drilling rig, rock cuttings stained with oil which were derived from the actual drilling process, the drilling mud consisting of bentonite and added chemicals used to bring the cuttings to the surface and oil spills associated with the production phase. These contaminated soils are not a suitable media for the

location of structure foundations or sites for landscaping. Preliminary estimates indicate that over 130,000 cubic yards of contaminated soil must be removed to reach uncontaminated soils in the "Ridge" and connector road areas.

Plant Life

The floral communities in the Baldwin Hills are in a condition best described as a "disclimax", that is a plant community induced artificially by man and not a component of the natural successional changes characteristic of the area. The dominant natural vegetation remaining has elements of the coastal sage scrub community, more specifically, the maritime sage scrub community. However, there are some undisturbed stands of vegetation on the slopes in the SRA with heavy cover and appearing the least disturbed, are actually dominated by one or two species, namely California sagebrush and coyote brush. The SRA consisting of canyons and ridges sloping eastward to La Brea Avenue, is dominated by low shrubs of California sagebrush, coyote brush, California encelia, and prickly-pear cactus, with scattered plants of numerous species represented as subdominants. Several clumps of elderberry occur on the shadier north-facing slopes. This section appears to have sustained the least recent disturbance by man and, though dominated by dense cover of only a few shrub species, may be the most important wildlife and plant habitat in the Baldwin Hills.

There has been little documentation of the fire history of the Baldwin Hills area perhaps due to the lack of diversity in plant species and the almost impenetrable cover of California sagebrush and coyote brush in some areas. Quite a number of old and dead shrubs were noted. These may indicate the exclusion of natural fires. The fire suppression is desirable from an oil field operations standpoint. This lack of occasional fires, a natural occurrence in the pre-european history of coastal sage scrub and chaparral plant communities, may have allowed the remaining stands of scrub in the Baldwin Hills to become over-mature. As in many other areas in Southern California this over-growth of native chaparral increases the fire potential of an area. There is evidence of several recent spot brush fires, the latest of which occurred in September, 1982.

There are no federally listed rare or endangered plant species recorded for the Baldwin Hills. The California Native Plant Society has inventoried rare and endangered plants statewide. There are eight plants on this list which, while not found in the Baldwin Hills during the surveys, have ranges and habitat requirements which may include the Baldwin Hills.

Animal Life

The highly disturbed nature of the area has severely changed the natural animal life in the Baldwin Hills. The low diversity of

native plants supports an equally low variety of wildlife.

The western harvest mouse was the most abundant rodent in the SRA area, comprising 69.1 percent of the total rodents. It was most common throughout the study areas, being absent from only oil well pads, oiled roads and other completely denuded areas.

The desert woodrat was the second most abundant species captured at Baldwin Hills during the surveys. It comprised 20.9 percent of the total rodents. This species was not numerous in the slightly and moderately disturbed coastal sage scrub communities, and was lacking in greatly disturbed areas.

The California vole was the third most abundant rodent taken during the surveys comprising 8.6 percent of the total rodents. This species was not abundant and was lacking in greatly disturbed areas.

Thirty-four species of birds are considered to be breeding within the Baldwin Hills. Red-tailed hawk, California quail, morning dove, Anna's hummingbird, cliff swallow, scrub jay, cactus wren, mockingbird, loggerhead shrike, starling, house sparrow, house finch, brown towhee, and song sparrow are confirmed breeders as evidenced by the discovery of a nest, juvenile birds incapable of flight, or of an adult feeding young. A remaining 20 species are regarded as suspected breeders because no direct evidence has been found.

The Baldwin Hills as a whole appear to support a relatively low diversity of amphibians and reptiles at this time, with only six species (one amphibian, five reptiles) being found on the site during the surveys. The disturbances to the native plant communities in the past by oil production activities appears to be the primary factor in reducing the diversity of species.

Of the species of mammals observed during the survey or reported by other individuals to occur in the area, none are considered rare or endangered in Los Angeles County. Six birds observed or expected at the sites are on the Blue list of threatened species, sharp-shinned hawk, Cooper's hawk, American kestrel, barn owl, burrowing owl, and loggerhead shrike. One (white-tailed kite) is on the California Fish and Game Fully Protected list and 10 are limited in number because of their position in the food chain. Other birds that most likely occur in the area at some time of the year are listed in the Appendix of the Inventory of Features. None of the amphibians or reptiles observed in the Baldwin Hills during the survey are considered rare or endangered on the official Federal or State lists. Two species projected as possibly occurring in the SRA vicinity, the coast horned lizard and the California legless lizard are listed as "threatened" due to habitat destruction, in the Society for the Study of Amphibians and Reptiles' Endangered and Threatened Amphibians and Reptiles in the United States. In addition, four species,

the coast horned lizard, California legless lizard, rosy boa, and common kingsnake, projected as possibly occurring in the area, are protected by California Department of Fish and Game Bag Limits.

CULTURAL RESOURCES

An extensive study of the entire Baldwin Hills project (1,295 acres) was conducted by the Northridge Archeological Research Center in 1978.

While no historic structures or archeological sites are within the SRA, the cultural history of this area is widely represented by a long history of Man's adaptation to the environment and his continuous development of its resources for energy generation. Man is represented in the history of Baldwin Hills from Pleistocene period to the present.

Native American Resources

Baldwin Hills and the surrounding area has several Early Man sites: Los Angeles Man (CA-LAN-172), La Brea Woman (CA-LAN-159) and the Angeles Mesa (CA-LAN-171) population. Due to an absence of any real associative cultural material in these sites, there are no direct indications of the cultural affinities of these early populations at this time. Evidence from North America (excluding California) reveals populations during this time span are big game hunters (artifact evidence including projectile points, bone tools, etc.) of Pleistocene megafauna (bison, mammoth, sloth, camel, and horse).

Euroamerican Resources

Baldwin Hills and the surrounding area has a long continuous history of occupation which is reflected by the number of archeological sites and historical points of interest recorded within the immediate vicinity. Within one mile of Baldwin Hills, there are sixteen recorded archaeological sites and two historic points of interest; within five miles, there are an additional twenty-five recorded sites and twenty historic points of interest. The historical points of interest within the five mile radius center on the historical background of the area as well as items of interest like the first tall chimney in California. These points of interest consist of examples of Ranchos (four), Explorer's camps (two), Significant Buildings (ten), Famous People (two), and Significant Botanical and Geological Items (two each). In addition, oil production facilities in the project area date back to 1924 and represent the history and development of oil production in the area. There are roughly 720 operable wells in the Inglewood Oil Field. Of these, about 440 are actually producing. It is estimated that the Inglewood Oil Field will probably not reach its economic limit until sometime past the year 2000. Another feature of the modern history of the Los

Angeles Basin is the Baldwin Hills Reservoir located in the central portion of the SRA. The reservoir dam failure in 1963 received much public attention and ultimately paved the way for this project. While no historical structures or archeological sites are known within the Baldwin Hills SRA, these features are part of the history of the Los Angeles area.

ESTHETIC RESOURCES

Esthetic resources associated with the Baldwin Hills include both visual and auditory features. Visual resources are primarily those that can be experienced, such as vista points which provide a variety of regional off-site views. The auditory resources considered to be positive features of the Baldwin Hills provide an isolated experience from the surrounding urbanized areas.

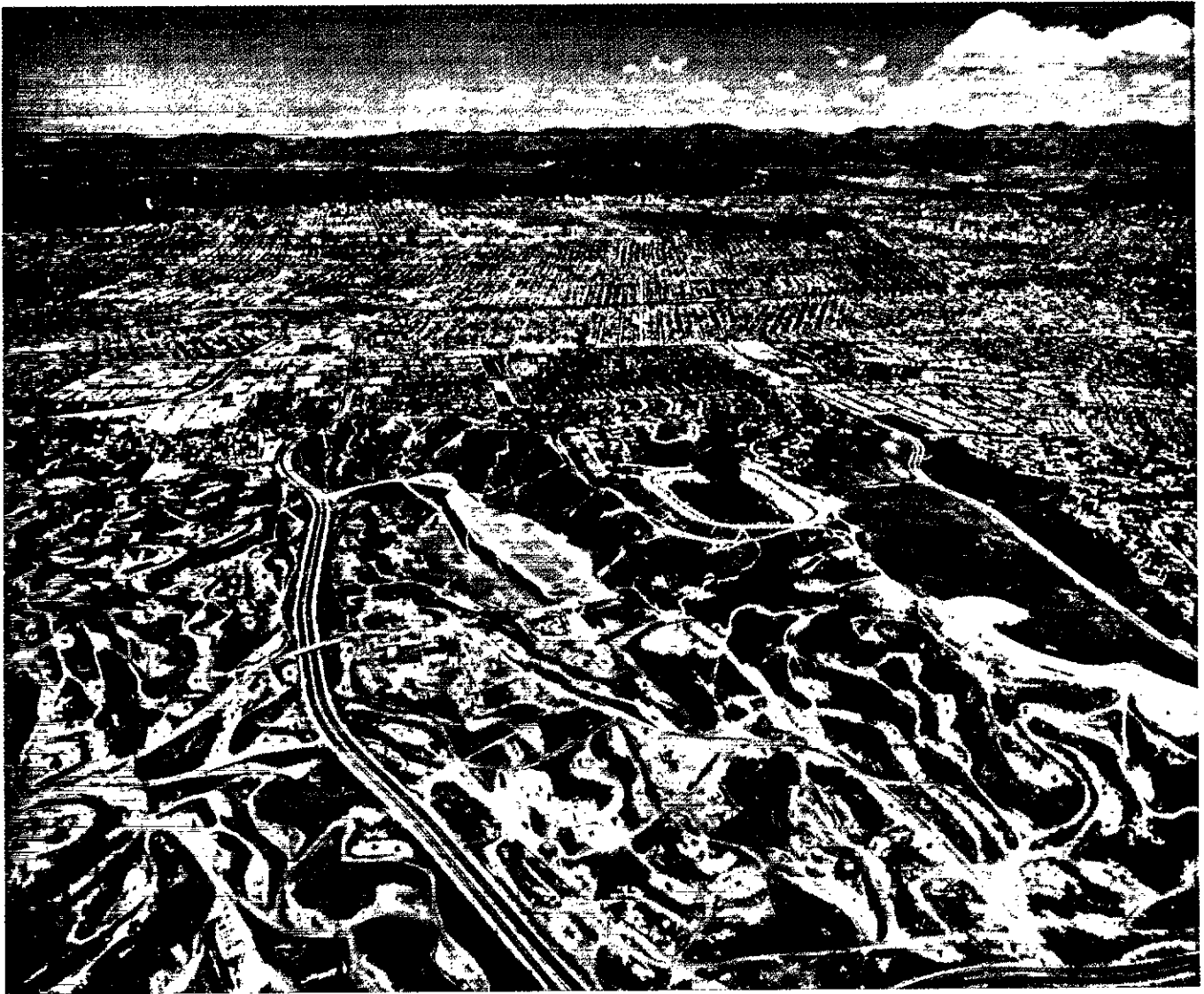
The topography of the project area, one of rolling, hilly terrain, offers several vista point areas from which most of the Los Angeles Basin can be viewed. In addition, the large open space quality which is visible to the motorist passing the area and the local community is in direct contrast to the heavily developed character of the surrounding urban environment.

Positive scenic features of the Baldwin Hills include: the ridgeline and steep slope areas with coastal sage vegetation and vantage points offering vistas and panoramas of the Los Angeles skyline, Pacific Ocean, and local mountains and hills. Refer to the "Inventory of Features," Section XI for specific view points.

Several developments and activities in the Baldwin Hills area have significantly effected the natural scenic qualities. These include: the presence of billboards within the La Cienega Boulevard corridor; transmission towers and lines crossing the portions of the SRA; communications facilities; oil wells and related facilities; unimproved maintenance roads; and areas of unauthorized off-road vehicle use. In addition, the oil production activities have necessitated extensive grading effecting some of the natural topography and vegetation.

The principal auditory features associated with the Baldwin Hills, other than natural sounds, include noise generated by oil drilling operations and vehicular use, both on-site and along the adjacent roadways. Oil production which has dominated much of the area involves exploration, drilling, pumping and removal, and continuous related traffic. The traffic associated with La Cienega Boulevard has been determined to be the major noise source in the area. This is not a continuous situation, since the noise studies were based on peak commuter traffic hours.

There are several isolated areas within the SRA boundaries, especially in the northern and northeastern portions where the topography shields the area from ambient noises. This feature contributes to the large open space quality of the SRA as a



PHOTOGRAPH - AERIAL VIEW NORTH

convenient relief from the local urban environment.

RECREATION RESOURCES

Historical recreational use of the SRA has included unauthorized hiking and off-road vehicle use. Until recently, the Baldwin Hills area has been owned by several different private parties with a few parcels leased to public agencies. Over the past few years, the County of Los Angeles has acquired and/or leased the northern portion of Site 2 to develop the Baldwin Hills Regional Park. In addition, Culver City has acquired approximately 17 hectares (42 acres) in the northwest portion of Site 1 and is developing a city park. The remaining acreage in the Baldwin Hills area is undeveloped for recreation.

The need for additional recreation opportunities in the area is stressed when comparing local statistics with a standard. Less than 0.25 hectare (0.5 acre) per 1,000 people of regional parkland serves this area. Compared to a national recommended standard of 2.4 hectares (6 acres) per 1,000 people and the County standard of 1.6 hectares (4 acres) per 1,000 people, this area is considered greatly deficient. The potential of the Baldwin Hills project to significantly reduce this deficiency is two-fold. Its physical and cultural aspects and the surrounding urban environment offer outdoor recreation and interpretive opportunities. Additionally, the large open space feature of the Baldwin Hills provides recreation potential unique to the surrounding urban area.

According to Recreation Needs in California: Report to the Legislature on the Statewide Recreation Needs Analysis (February 1982), "The largest increases in participation are expected in non-strenuous outdoor activities. These activities will grow at a faster rate than the population, and could grow even faster if certain constraints are reduced. This finding indicates a need for nature-oriented parks in urban areas. These parks should provide a maximum feeling of open space with a minimum of support facilities required to accommodate outdoor activities (camping, boating, hiking, nature appreciation, swimming, and fishing)." The Baldwin Hills project would meet this expressed need by reducing travel time and expense; providing little or no cost recreation activities; and encouraging public awareness of local cultural and natural values.

Resource Policy Formation

CLASSIFICATION

Baldwin Hills was classified as a state recreation area (SRA) in February 1983 by the State Park and Recreation Commission.

At the time of this classification, the property identified for the SRA ("Ridge" site) was pending acquisition with funds

allocated by Assembly Bill 1067. Recent action by the State Legislature has deleted these funds (\$7.5 million) from the 1983 State's fiscal year budget, and therefore, postponed acquisition of the SRA property until these funds are reinstated at a later date.

Subsequent action taken by the County of Los Angeles to avoid delays in the development of Baldwin Hills as an SRA has been to gift the County fee owned parcels of the Baldwin Hills project area to the State of California. It should be noted that the gifted property is adjacent to the "Ridge" site (see Proposed Acquisition Map, Sheet 2 in Appendix) and was planned for inclusion in Phase II of the Proposed Acquisition Plan (see Proposed Acquisition Map, Sheet 1 in Appendix).

The following definition of a state recreation area, as described in the Public Resources Code (PRC), Division 5, Chapter 1, Article 1.7, Section 5019.56a, includes references pertinent to plan formulation for resource management and recreational development.

State recreation areas, consisting of areas selected and developed to provide multiple recreational opportunities to meet other than purely local needs. Such areas shall be selected for their having terrain capable of withstanding extensive human impact and for their proximity to large population centers, major routes of travel, or proven recreation resources such as man-made or natural bodies of water. Areas containing ecological, geological, scenic, or cultural resources of significant value shall be preserved within state wilderness, state reserves, state parks, or natural or cultural preserves.

Improvements may be undertaken to provide for recreational activities including, but not limited to, camping, picnicking, swimming, hiking, bicycling, horseback riding, boating, waterskiing, diving, water sports, fishing and hunting.

Improvements to provide for urban or indoor formalized recreational activities shall not be undertaken within state recreation areas.

DECLARATION OF PURPOSE

The primary purpose of Baldwin Hills State Recreation Area (SRA) is to preserve the last open space resource in this area of Los Angeles County capable of meeting the present and future outdoor recreation needs of the public. To preserve this open space, major portions will need to be restored and revegetated. The purpose of this restoration is to repair the damage that has

occured to the vegetation and land forms resulting from the past and present uses of the area.

The prime resources of the Baldwin Hills State Recreation Area are:

- o the large open space quality which is in direct contrast to the heavily developed character of the surrounding urban community;
- o the many scenic vista points from which most of the Los Angeles Basin, Pacific Ocean and local mountains can be viewed; and
- o the potential of the unit to provide regional recreation opportunities for 2.5 million people within a radius of 16 kilometers (10 miles).

In addition, there are natural and cultural values in the unit that can provide other recreational and interpretive opportunities.

ZONE OF PRIMARY INTEREST

The SRA is the last remaining, undeveloped open space area in this portion of Los Angeles County. Presently, oil production facilities cover about 70 percent of the Baldwin Hills area; however, the SRA is free of operating wells. As additional wells are abandoned, recreation development may be allowed to expand to the remaining project area. Surrounding lands are fully developed for residential and commercial uses. Land use changes in the surrounding areas are not likely to occur in the foreseeable future or have any adverse effects on the stated purpose of the SRA and resource management objectives.

RESOURCE MANAGEMENT POLICIES

NATURAL RESOURCES

Topography

Considerable modification of the natural topography has resulted from oil field related grading. Additionally, the majority of the existing development has taken place prior to the enactment of stringent modern grading codes, thus 1:1 slopes lacking proper drainage devices and retaining walls are common.

Policy: Only those roads and structures necessary to provide access and facilities to the natural areas of the unit shall remain. Where grading has occurred for roads, oil well pads, and associated support facilities, every effort shall be made to restore those areas. Where erosion and earth slippage has occurred in areas adjacent to proposed public use areas, grading

in these areas should remove any potentially hazardous conditions to human safety. In areas that are determined unsafe for human use, reconstruction shall include construction of barriers to maintain public safety.

Hydrology

The Baldwin Hills lack any significant amount of surface water and water encountered underground is substandard. Water demands such as sprinklers, ponds, sanitation need, etc., will be placed on the unit as development takes place.

Policy: Negotiations with one of the several water companies servicing the area shall yield an adequate supply of water prior to the construction of such facilities.

Policy: Facilities shall be designed with water conservation in mind. Use of low-flow and minimal irrigation devices shall be incorporated where feasible.

Denuded watersheds have resulted in increased runoff and large amounts of debris.

Policy: Graded slopes shall be planted with deep-rooted vegetation as quickly after grading as possible. Techniques such as the placement of jute matting on slopes shall be tested in problem areas. Drainage shall be collected and directed in non-erosive drainage devices to natural water courses or approved dispersal locations.

The northern portion of the SRA has steep slopes of over 50% that drain directly onto the adjacent residential properties.

Policy: No development shall occur in this area that could potentially cause soil instability and increase runoff.

Geology

Baldwin Hills State Recreation Area is located in a region that has a history of seismic activity, damaging earthquakes, and land subsidence. The Inglewood Fault, whose main fracture lies in the central portion of Site 2, has been classified as an area capable of ground surface rupturing during a moderate earthquake and is included in "special studies zones" by the State of California Division of Mines and Geology, Special Publication 42 (Hart, 1980), as mandated by the Alquist-Priolo Special Studies Zone Act of 1972. Several fault rupture zones branch off this main fracture within the boundaries of the SRA.

Policy: Consultation shall take place with a qualified geologist for site-specific planning. Construction shall be reviewed by a qualified engineer/geologist for potential safety hazards in accordance with California Administration Code, Title

14, Division 6, Chapter 8, Subchapter 1, Article III and Public Resources' Code Section 2621.5

Over 50 oil wells in the Inglewood Oil Field, adjacent to and encompassing the unit, were abandoned prior to more stringent standards. There will be a future need for proper abandonment of oil wells and related facilities.

Policy: The State of California has jurisdiction over abandonment of oil wells. All abandoned oil wells and facilities not in compliance shall be brought to current standards.

Soils

The original soils in the Baldwin Hills have been partially removed or covered by erosion and grading. Colluvium and artificial fill which have replaced or covered the original soils are generally unsuitable to support plant growth or structures.

Policy: Contaminated soils and unsuitable fill shall be removed and/or mixed with uncontaminated soils under the observation of a qualified soils engineer. Replacement fill, where required, shall be compacted to at least 90 percent of the maximum laboratory density. Testing shall be performed by a qualified soils engineer during grading to ensure the required degree of compaction and moisture content is obtained.

Policy: No structures for human occupancy shall be developed in landslide and unstable slope areas.

Biotic

Several state mandates provide for the establishment of management policies to preserve the significant biotic features of units in the state park system: Section 15011c, Title 14, California Administrative Code; Policy Number 7, Commission; and Section 5019.71, California Public Resources Code. In addition, section 5019.56a provides for the establishment of natural preserves, as further detailed in section 5019.71, within state recreation units to preserve significant ecological or scenic resources.

Policy: Revegetation and biotic management shall be in accordance with the department's Resource Management Directives 1831.1 and 1831.2 of the Operations Manual.

Policy: Areas shall be designated within the SRA that will be developed as tree groves, thereby propagating the urban forest concept. Buffer areas, utilizing vegetation, shall be developed to separate active use areas from passive and residential areas.

A forestation program shall be incorporated in the development plans for the major vehicular thoroughfares and camping areas.

This program shall include a diversity of plants to encourage the wildlife rehabilitation.

Eight rare or endangered plants recognized by the California Native Plant Society have habitats similar to that of Baldwin Hills. Six birds expected to be seen in the area are on the Blue List of threatened species. Two species of amphibians/reptiles possibly occurring in the area are listed as "threatened" in the Society for the Study of Amphibians and Reptiles' Endangered and Threatened Amphibians and Reptiles in the United States. Four species of amphibians/reptiles and one bird projected as possibly occurring in the area are protected by the California Department of Fish and Game.

Policy: Monitoring shall continue to determine if any officially rare or endangered plants or animals occur on the unit. If such are found, management programs shall be established to ensure their perpetuation including the classification of a natural preserve as provided by section 5019.71, California Public Resources Code, if necessary.

Policy: Natural water supplies supporting ecosystems shall be protected.

Policy: Chaparral and coastal sage scrub plant communities shall be managed to reduce the potential of uncontrolled fires. Locations of structures shall consider proximity to large groupings of these plant communities.

CULTURAL RESOURCES

Cultural sites in the Baldwin Hills area reflect the entire gamut of Man's utilization of the land. An archeological survey was performed encompassing the entire project area and indicated that the proposed development will have no adverse impacts on known archeological resources. However, undetected resources may exist within the SRA boundaries.

Policy: If many artifacts or sites are encountered during development or use, a qualified archeologist shall be contacted to suggest mitigation measures. All mitigation measures must be carried out using standards set by the Resource Protection Division, State Department of Parks and Recreation.

ESTHETIC RESOURCES

The topography of the unit provides unique vistas of the entire Los Angeles Basin, the Pacific Ocean, local mountain chains and adjacent cities south of the project area. Additional resources include coastal sage vegetation on the ridgeline, steep slope and canyon areas.

Noise levels from the surrounding urban landscape are muffled by

the topography of portions of the unit.

Policy: Grading shall be controlled in such a manner as to preserve the natural topography and vegetation. Siting of passive uses, such as camping, shall consider noise mitigation.

ALLOWABLE USE INTENSITY

The Public Resources Code (Division 5, Chapter 1, Section 5019.5) requires that a land carrying capacity survey be conducted on lands in the State Park System before a development plan is formulated.

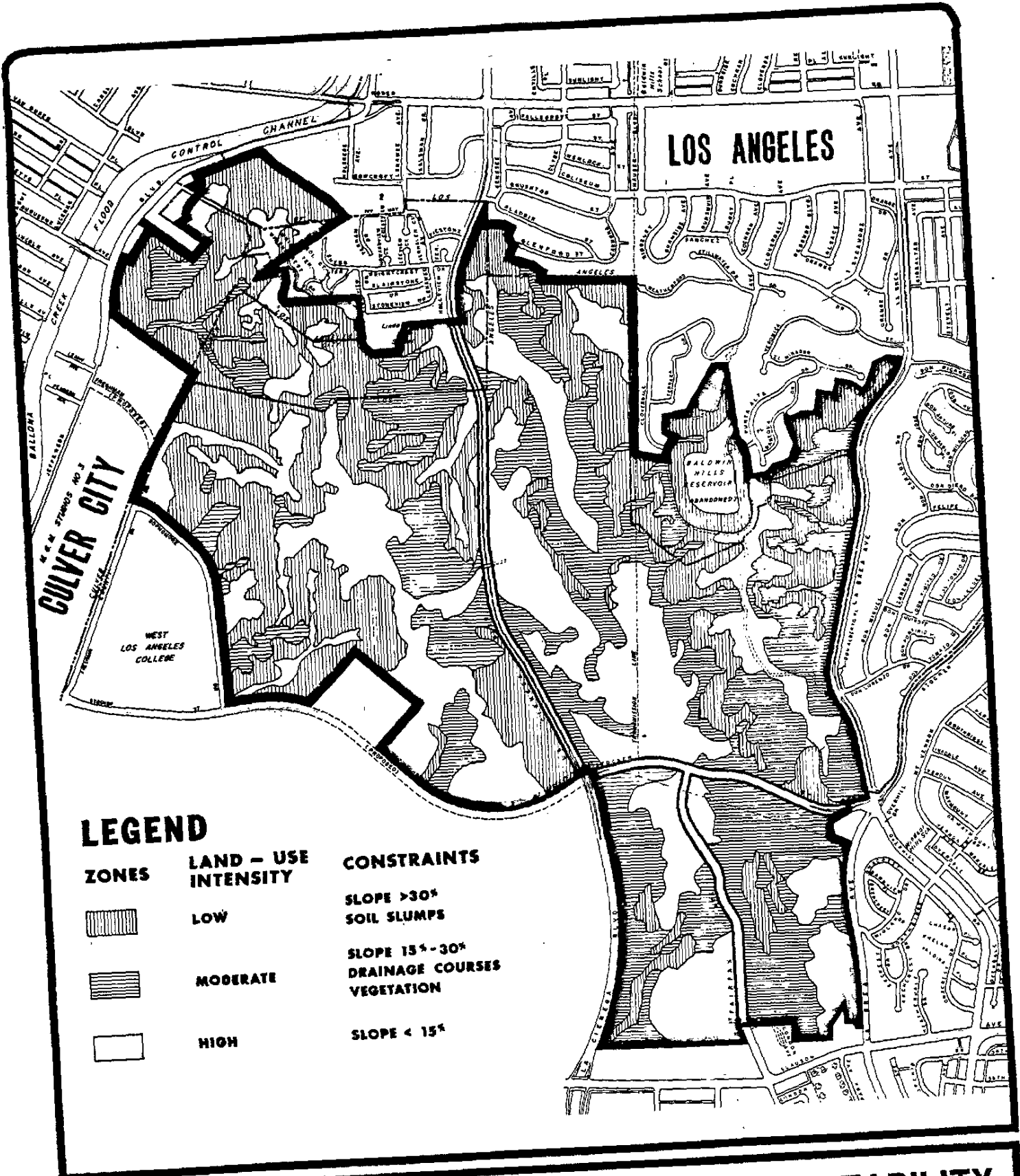
"Carrying capacity" or use intensity, in the recreation context, signifies the optimum number of persons per acre that can be allowed in an area at one time without directly or indirectly causing irreparable damage to the natural resources being used and without detracting from the quality of the vistas experience.

The development of the Baldwin Hills SRA has centered around the concept of an open space urban forest. The physical characteristics of the area (topography, seismicity, soils, plants) dictate that the development be non-intensive with many areas remaining in open space. The SRA concept has evolved from much public input and centers around providing a passive recreation area. The Proposed Land Use Intensity Map has been prepared for the purposes of delineating areas of varying recreational land use potential. The intensity of use for the unit is divided into three levels of usage primarily based on slope: high use areas with slopes of 15% or less; moderate use areas with slopes between 15% - 30%, drainage courses and vegetation; and low use areas with slopes over 30%, potential fault rupture and settlement zones, soil slumps and earthquake hazard. Within the SRA, over 28% of the land is categorized as high use intensity.

Other physical factors limiting recreational development primarily are contaminated soils found in the SRA and the planned philosophy of rustic, passive open space. To a lesser extent, seismic and fire hazards may be considered as constraints to recreational development of the area.

Soil investigations have identified contaminated soils in the SRA from the oil production activities, including the remnants of oil drilling: bentonite, tar and oil residues. These contaminants render the soil unsuitable for building sites and landscaping. Preliminary estimates on the "Ridge" site indicate that over 99,398 cubic meters (130,000 cubic yards) of contaminants must be removed to reach uncontaminated soils.

The second primary limiting factor on the use of the area for intensive recreation activities is the philosophy of rustic, passive open space planned for the unit. Capacity parameters will



RECREATION SUITABILITY

BALDWIN HILLS STATE RECREATION AREA

NORTH

0 400 1200 1600 feet

need to be established on recreation supporting facilities to preserve this rustic, open space theme.

The potential seismic activity in the SRA places constraints on the location choices of buildings for recreation facilities, but does not appear to limit the recreation capacity of the unit as a whole. The large open space character of this unit provides recreation potential independent of many built facilities.

Due to the present over-maturity of the chaparral in portions of the project area, wildfire hazard is a management concern. Development should be designed with this fire factor in mind. In addition, fire management controls can be implemented once the project is managed by one agency.

LAND USE AND FACILITIES ELEMENT

Baldwin Hills State Recreation Area has a unique combination of natural and cultural features that provide it with the potential to supply a wide range of recreational and interpretive benefits. The primary thrust for acquisition and development is, of course, in preserving the large open space area for recreational needs. The purpose of the land use facilities element is to determine the areas most suitable for these activities.

The land use facilities element is a comprehensive, long-range master plan for development of recreational and interpretive facilities at Baldwin Hills State Recreation Area. This element is a narrative and graphic description of the SRA as it existed at the time of state acquisition, supplemented with plans and goals for future development within the framework set forth in the resource element.

Site requirements were developed as the result of a planning process that gathered information from several sources: (1) A series of studies, including a preliminary master plan, environmental impact reports, and resource element, provided the detailed information on the environment. This included research on topography, climate, hydrology, geology, soils, vegetation, wildlife, archeology, and visual quality. (2) A 15 member Citizen Advisory Committee (CAC) was appointed to assist the department's planning team in developing the preliminary master plan. The CAC represented a broad range of interests and backgrounds. Eight meetings were held with the CAC to gain their input on the plan. (3) In addition to the CAC, a Technical Advisory Committee (TAC) was formed to provide technical input on the feasibility of the proposed plan. (4) Three public hearings were also held to solicit general public comment.

As part of the planning process, a number of objectives were formulated by the CAC to guide eventual development: (a) Acquisition of as much of the 1,300 acres as possible to ensure recreational use of the open space. (b) Development is to provide varied and unique recreation opportunities, particularly those not available in the surrounding communities. (c) Surrounding land uses should be considered in development plans. (d) Promote a transportation program to and within the project area. (e) Implementation of an urban forest program. (f) Long-term operation and maintenance should be considered in selection of plant materials and design development. (g) Develop an interpretive program.

Land Use Analysis

PROPOSED ACQUISITION

The history of this project reflects a multi-agency cooperation for the purpose of preserving by lease and/or acquisition this

unique open space. Between 1976 and 1983, the County of Los Angeles acquired fee title to 95 hectares (234 acres) in the northern portion of Site 2. The following parcels are included (see Proposed Acquisition Map in Appendix):

<u>PARCEL</u>	<u>HECTARES (ACRES)</u>	<u>DATE OF ACQUISITION</u>	<u>ACQUISITION COST</u>
2-8,2-9	14ha(36ac)	August 1977	\$1,120,000
2-10	- FAA Facilities, excluded from acquisition		
2-5A	51ha(125ac)	October 1978	4,900,000
2-4	6ha(14ac)	October 1981	408,000
2-16	.02ha(.05ac)	August 1983	3,000
2-19	24ha(59ac)	August 1983	380,000
TOTAL	95.02ha(234.05ac)		\$6,811,000

These parcels compose the property gifted to the State of California by the County of Los Angeles in August 1983 and complete Phase I of the Proposed Acquisition Plan.

Phase II of the Proposed Acquisition Plan identifies acquiring fee title to the proposed connector road parcels initially, and the "Ridge" site as future funding becomes available (see Proposed Acquisition Plan, sheet 2, in Appendix).

The next priorities set forth in the long-range acquisition plan for the Baldwin Hills project include, the Artesian Co. property located adjacent to La Cienega Boulevard on Site 2, Cone and Standard Oil Co. properties on Site 1, and a potential donation by the Ethyl Oil Corporation of their three parcels located in the southern portions of Sites 1 and 2. The remainder of the open space will be acquired in later phases by easement or license agreement rights. Petroleum extraction accounts for a majority of use of these leases, with additional interests vested in water retention and distribution, electrical transmission and distribution, and communication facilities. The present fee owners are to retain any mineral extraction and other interests in said rights upon their land until it is mutually agreed that said rights are no longer necessary.

As part of the acquisition of future phases, reversionary rights for those parcels remaining in oil production may be considered.

EXISTING LAND USE

The unit represents the last large open space area in the west-central portion of Los Angeles County. Within a 16 kilometer (10 mile) radius of the unit, 2.5 million people reside (1/8th of the State's population). The surrounding community is multi-racial and multi-cultural. This area contains the largest economically disadvantaged population in the state. Additionally, the opportunity to experience the amenities offered by a large open space area of this magnitude is not presently available to

many residents of the surrounding area.

Use of the area for the purpose of extracting oil and processing natural gas has necessitated the construction of many oil related structures throughout the project area. Approximately 70% of the surrounding open space area is presently involved in the production of oil. Related structures include: oil wells, pipes, water treatment and gas plants, storage tanks, buildings and service roads.

Several areas are utilized for both overhead and underground utilities. A high voltage line (City of Los Angeles, Department of Water and Power) bisects Site 2 and travels through a portion of Site 3. With the exception of oil production facilities, the undeveloped nature of the unit has permitted several utility companies and government agencies to locate electrical, telephone and gas transmission lines throughout the project area.

The size and complexity of the Baldwin Hills SRA dictates that the development be accomplished in phases. Phase I Development coincides with Phase I of the Proposed Acquisition Plan which is the gifted County property. The development of Phase I has occurred since 1981 and to date has been concentrated on the 2-5A parcel ("La Cienega" site). The remainder of Phase I is proposed in the General Plan as Phases 1C, 1D, and 1E with 1D pending acquisition of the "Ridge" site.

The "La Cienega" site's existing facilities, Phases 1A and 1B, are clustered in three structured picnic areas located within an approximately 10 hectare (20 acre) open area (see General Plan Map in Appendix). Each cluster provides various amenities such as, a comfort station, horseshoe pit, drinking fountains, trash receptacles, picnic tables and pads, and BBQ's. Additional facilities include: an entry kiosk located approximately 305 meters (333 yards) along the west park road from La Cienega Boulevard (see "Circulation"); a 0.9 kilometer (1/2 mile) pedestrian walkway connecting the structured picnic sites and encircling the open area; and two parking facilities adjacent to the picnic clusters.

CIRCULATION

The primary access to the Baldwin Hills SRA is directly from La Cienega Boulevard which is the major traffic artery servicing the surrounding area. Emergency access exists from La Brea Avenue to the "Reservoir" site. Internal circulation within the SRA currently includes the west park road approximately 1.14 kilometers (3/4 mile) from La Cienega Boulevard which terminates at the end of the existing development. A connector road is proposed to link the "La Cienega" site to the "Reservoir," and "La Brea" sites and eventually the "Ridge" site, contingent upon acquisition.

The entry point from La Cienega Boulevard has one lane in and one lane out for northbound traffic. A triangular island separates the deceleration lane from the acceleration lane. This forms the two lane, two way west park road which circulates through the SRA providing access to the parking areas and major facilities. Approximately 305 meters (333 yards) from La Cienega Boulevard along the west park road is the entry kiosk area which has a gate controlling access to the SRA. There is adequate stacking room and turn-around space provided.

UTILITIES

All utilities are proposed to be underground and meet the minimum requirements as prescribed by the governing ordinances, including sewer lines, water mains and electrical service lines.

Reference is made to the Baldwin Hills Acquisition EIR, page 26, for a discussion of available utilities. The heavily developed nature of the areas surrounding Baldwin Hills has caused the necessary utility systems to be extended to the areas adjacent to the unit. Where current utilities such as water and sanitary sewers are not adequate to meet the facility requirements once development occurs, some utility construction may be necessary. The low level of development proposed for the SRA is not expected to cause the construction of extensive new utilities. Most construction, if required (eg. water pressure pumps to serve the upper levels of the unit), would occur within the boundaries of the SRA.

REGIONAL LAND USE

This area of Los Angeles County is currently not served by any regional park facilities. The nearest facility is Griffith Park 1,781 hectares (4,400 acres) which is 24 kilometers (15 miles) away from the SRA via surface traffic arteries. The areas surrounding the SRA to the north and east is residential. The remainder of the surrounding land to the south and west is an extension of the Baldwin Hills open space area and supports heavy oil production activities.

Proposed Facilities

DESIGN CONCEPTS

The proposed facilities for the SRA were determined by the overall design concept for the unit. This design concept envisions the SRA as an area providing passive recreation within an urban forest setting and retaining major portions of the undisturbed natural environment as much as possible. Required facilities are proposed to be constructed in a manner which maintains a "rustic" recreational experience.

OPERATIONAL NEEDS

The facilities would be designed and developed within the guidelines and policies identified in the resource element. The facilities are depicted on the General Plan Map (see Appendix) and are described by the proposed phases in the following paragraphs:

Phases 1A and 1B are existing facilities located on the "La Cienega" site as described previously (see "Existing Land Use").

PHASE 1C

This phase is designed with two ponds, a stream, and a lake as the main focal features. The riparian environment provides a pleasant setting for fishing, sunbathing, hiking and picnic activities. Phase 1C is expected to begin construction in Fall 1983 and will have the following facilities:

Lake and Stream: The water feature, located on the westside of the west park road, includes a lake, a lower pond and an upper pond connected by a running stream and water cascade. A riparian forest landscape is designed to interface with two hiking trails and several picnic areas adjacent to the water course. The lake and the lower pond will be stocked with fish and landscaped with accent aquatic plants, rock outcrops, and a sand beach to promote fishing and sunbathing activities. Swimming will not be permitted.

Picnic Areas: There are two types of picnic areas - structured and unstructured. The structured picnic areas would have tables, BBQ facilities, water and trash receptacles. Unstructured picnic areas are informal areas where one may spread a blanket and have a picnic. Four structured picnic areas and several turf picnic areas are provided in this phase.

Comfort Station: This phase includes one comfort station located northeast of the lake. The design of the comfort station, similar to the existing facilities is simple and rustic in character. The restroom facility would include separate units for men and women. Sewage would be treated on-site utilizing a septic tank and leach field system.

Trails and Lookout: Trails planned for this phase include:

- o Trails Connecting Facilities - Four natural cobblestone cross walks across the existing west park road would serve as pedestrian access points from the existing development to the Phase 1C development area. A pedestrian walkway, approximately 0.74 kilometer (1/2 mile) along the western edge of the west park road, would serve to connect various facilities and parking areas. The trails would be rustic in character using soil-cement

mixture as paving material for erosion control. Trail width varies between 1.2 to 1.8 meters (4 to 6 feet).

- o Lake/Stream Trails - Two trails, one running the length of the stream and lake on the eastern side, approximately 0.42 kilometer (1/4 mile), and the other running only along the stream on the western side, approximately 250 meters (820 feet), are planned. The eastern trail is designed for access by the handicapped with slope gradient of no greater than 5% and a width varying between 1.8 to 3 meters (6 to 10 feet). The western trail has a maximum slope limit of 10% and a width varying from 1.2 to 1.8 meters (4 to 6 feet). Both trails will use soil-cement mixture as paving material for erosion control.
- o Interpretive Trail/Lookout - The interpretive trail, approximately 0.58 kilometer (1/3 mile), and lookout proposed would communicate the unit's natural, historical, cultural and visual resources to the visitor along the trail and at interpretive station located at the lookout. Some of these resources may include:
 - Oil production and energy related topics.
 - Cultural history: Indian and Spanish influences.
 - Plant/wildlife ecology.
 - Geology/soils: seismic activity and faults.
 - Olympic Village history.

The first 0.44 kilometer (.27 mile) is a continuation of the pedestrian walkway of the existing facilities 1.2 to 1.8 meters (4 to 6 feet) in width and paved with a soil-cement mixture. The last 137 meters (450 feet) connects the pedestrian walkway to the lookout. This portion of the trail design would be rustic, unimproved, but stabilized to prevent erosion. The trail width would vary between 1.2 to 1.8 meters (4 to 6 feet). The lookout would have interpretive information for the hikers. The rustic design character would be developed by using pole construction and corten steel roof. The roof would provide shade; would not be susceptible to fire damage; and would weather to a color found naturally in the area.

Play Area: A children's play area is planned to be located near the center of the existing development area, adjacent to a cluster of picnic facilities.

Parking Facilities: Two parking areas, one on the southern end and the other on the northern end of the 1C site are planned for this phase. Parking and access for the handicapped are provided. The parking facilities would be surfaced with asphalt.

Slope Landscaping: Several areas are landscaped to enhance

slope stabilization and to serve as transitional spaces between the development and the native environment. Landscaping in these areas involves hydroseeding of low-height vegetative covers and planting of trees. The areas include:

- o Park entry area fronting La Cienega Boulevard.
- o Slopes along the eastern perimeter of the existing development.
- o Slopes along the southwestern perimeter of Phase 1C.
- o Steep slopes between the existing west park road and the proposed lake.

PHASE 1D

As discussed in the Proposed Acquisition section, Phase 1D ("Ridge" site) had not been acquired as of the date of this General Plan, and therefore can not be proposed for development in this phase. It should be noted that upon acquisition, the development proposed for Phase 1D would provide additional camping, picnic areas, parking, comfort stations, trails and lookouts. In addition, this phase proposes an Alternative Energy Awareness Center.

PHASE 1E

The General Plan proposes the following facilities to be included in the Phase 1E development:

Headquarters Building/Maintenance Facility: The proposed SRA headquarters building is located at the terminus of the existing west park road. This site would be centrally located when subsequent phases of the SRA are fully developed. The building was sited to take advantage of the natural heating and ventilation opportunities of the unit. The structure is proposed to have an energy efficient building envelope with proper insulation, double-paned glass and devices such as a heat-sink for passive heating and cooling. Through selective plantings of deciduous trees the building would be shaded during the summer and receive sun in the winter.

A small maintenance building and an equipment storage yard would be located near the headquarters building. This area would be sited and screened from the rest of the SRA facilities.

Vista Lookouts and Interpretive Trails: The interpretive trail and lookout system proposed for Phase 1E would join the similar system proposed in Phase 1C to form an integral network. The trails and lookout system would communicate the unit's natural, historical, cultural and visual resources to the visitor along the trail and at key interpretive stations primarily located at the lookouts. Some of these resources could include:

- o Oil production and energy related topics.

- o Cultural history: Indian and Spanish influences.
- o Plant/wildlife ecology.
- o Geology/soils: seismic activity and faults.
- o Recent history and events: Baldwin Hills Reservoir and Olympic Village.

Two types of interpretive trails are proposed: a continuation of the pedestrian walkway system and hiking/riding trails. The pedestrian walkway, approximately 2.4 kilometers (1 1/2 mile), would be rustic in character using soil-cement as paving material for erosion control. Trail width varies between 1.2 to 1.8 meters (4 to 6 feet). The hiking/riding trails, approximately 2.4 kilometers (1 1/2 miles), would be rustic, unimproved, but stabilized to prevent erosion. The trail width would vary between 1.8 to 3 meters (6 to 10 feet).

The lookouts would have interpretive information for the hikers and riders. The rustic design character of the lookout structures would be developed by using pole construction and corten steel roofs. The roof would provide shade; would not be susceptible to fire damage; and would weather to a color found naturally in the area.

Amphitheatre/Fire Pit: Adjacent to the group campground of the "La Brea" site is a small amphitheatre that would seat 200 persons. The amphitheatre would have a rustic design character and would support multi-purposes. During the day, the amphitheatre would be used for interpretive lectures for visitors and school groups. At night, the amphitheatre would be used for group camping activities, such as singing around the fire ring.

Group Camping: One camping area is proposed for the "La Brea" site located adjacent to the amphitheatre. The ground surface for the campsites would be natural soil and wood chips.

Picnic Areas: There are two types of picnic areas: structured and unstructured. The structured picnic areas would have tables, barbecue facilities and water. Unstructured picnic areas are informal areas where one may spread a blanket and have a picnic.

Five structured picnic areas are proposed. Two are located in the "La Brea" site in the east side of the SRA. The other three are located within the "Reservoir" site and are serviced by a proposed food service structure. An unstructured picnic area is also proposed for the "Reservoir" site and one for the Vista Point area of the "La Cienega" site.

Olympic Forest: The Olympic Forest area, approximately 5.6 hectares (14 acres), covers the northwest corner of the "La Cienega" site. This site has been modified over the years and in recent times used as a fill site. It is envisioned that each nation participating in the 1984 Olympic Games would have at least one tree species representative of its country.

The concept for this development includes organizing the plantings by various vegetation life zones to include:

- o Tropical Forests,
- o Savanna,
- o Desert and Semi-desert,
- o Dry Scrub and Woodland,
- o Grassland,
- o Deciduous Forest, and
- o Coniferous Forest.

The Olympic Forest theme would be further enhanced by developing interpretive trails and stations describing the forest and its relationship to cultural development of each country.

Interpretive Center: The center is located in the Olympic Forest area adjacent to parking facilities with access from the west park road.

The center will consist of both interior and exterior exhibit areas. The exterior exhibits will be an integral part of a walking tour. The interior exhibits will be housed in a structure of adequate size to contain the following:

- o Display areas for primary and derivative themes
- o Display areas for selective secondary themes
- o Multi-Media Room (10-20 people)
- o Information Desk
- o Staff Office
- o Storage Area
- o Restroom Facilities

The building design will complement the headquarters building and the overall rustic and energy conservation concerns.

Parking Facilities: The parking facilities would be surfaced with asphalt. Parking areas proposed for Phase 1E include:

- o Parking for Headquarters Building
 - for day use only
- o Parking for Interpretive Center area
 - for day use only
- o Parking for "La Brea" site (picnic areas)
 - for day use only
- o Parking for "Reservoir" site
 - for day use only
- o Bus parking for "La Brea" site
 - located between the Reservoir and Amphitheatre
 - for overnight camping use

Comfort Stations: Eleven comfort stations are strategically sited for Phase 1E development. The stations are located as follows:

- o Headquarters Building - one station
- o Interpretive Center - one station
- o Interpretive Center Parking Area - one station
- o Reservoir Area - three stations
- o La Brea Group Campground - one station
- o La Brea Picnic Area - one station
- o Olympic Forest - two stations
- o Vista Point Area - one station

The design of the comfort stations would be simple, keeping within the rustic character of the SRA. The restroom facilities would have low-flow sinks and toilets with separate units for men and women. Sewage would be treated on-site utilizing a septic tank and leach field system similar to the existing La Cienega comfort stations. The septic tank and leach field is an interim system until full sewer connections are implemented at the completion of the ridge site development.

Buffer: A landscaped zone, approximately 21.6 hectares (53.5 acres) is proposed along the northern perimeter of the SRA to screen and buffer activities from nearby residential areas. The large area north of the "Reservoir" site, approximately 5 hectares (12 acres) would remain as an undeveloped buffer zone.

Circulation: Internal circulation of the SRA would include the following proposed alternatives:

- o Connector Road Alternative - A connector road is proposed to link the "La Brea" site on the east side of the SRA with the "La Cienega" site on the west side. It should be pointed out that the connector road is not proposed as a Phase 1E project and will be constructed only after acquisition of the required land parcels.

If the connector road is constructed, the Phase 1E development proposes to extend the road eastward forming an east park road to access "Reservoir" site and "La Brea" site. Hence, the east and west side developments of the SRA will be connected by extending the existing park road easterly.

- o La Brea Avenue Access Alternative - If the connector road described above is not constructed, a La Brea Avenue access is necessary for Phase 1E construction. The access would permit entrance to the east side of the SRA from La Brea Avenue. The access point would use the same intersection location as the existing DWP service road. The proposed access intersection would be grade separated with acceleration and deceleration lanes going both traffic directions. The access would be extended west to form east park road servicing the "La Brea" and "Reservoir" sites. This road would be a two lane, two way road and would not link the "La Brea" site to the "La

Cienega" site.

- o Transportation Link to Vista Point - The Vista Point area is located on the ridge overlooking the Baldwin Hills SRA and the Los Angeles Basin. The area has interpretive lookout points and informal picnic facilities. Of all the view areas within the project area, this site has the best view to the Pacific Ocean, Santa Catalina Island, Santa Monica Mountains, West Los Angeles, Hollywood and Downtown Los Angeles.

A transportation system to connect the existing development and the Vista Point area is proposed. This transportation system would provide access to the vista area and act as a recreational focal point. Any proposed system should be in conformance with the rustic theme, geologic safety considerations and adjacent preservation areas. Possible systems include:

- Tramway
- Narrow Gauge Railway
- Cog-Railway
- Funicular (eg. Angels Flight)

Entry Kiosk: If the La Brea Avenue access is constructed, an entry kiosk area would be located westward of the access intersection from La Brea Avenue. The Kiosk would control traffic into the SRA and provide adequate stacking room and turn-around space.

Concessions: Three areas are proposed to house food preparation and services: one located in the "La Brea" site picnic area in the east side of SRA and the second located in the Olympic Forest area of the "La Cienega" site, and the third would be located within the "Reservoir" site. These concessions could range from a snack bar to a small restaurant.

INTERPRETIVE ELEMENT

The potential for interpretation within the SRA is considerable. The Baldwin Hills site and the physical and cultural aspects of the surrounding urban geography offer numerous opportunities.

Interpretive Period

Development of the unit shall include interpretation of not only the past history of the area, but also the present use of the project area for oil production. Interpretation shall include recognition of:

- Inhabitation by the Tongva Indians
- Mission Period (A.D. 1771 to 1843)
- Mexican Period (A.D. 1822 to 1846)
(including Ranchos)
- Baldwin Hills Reservoir (failure)
- Past, Present and Future Oil
Production Activity

Interpretive Themes

PRIMARY THEME

Olympic Forest

This primary theme is concerned with a proposed Olympic Forest in the northwest portion of the "La Cienega" site. Baldwin Hills was the site of the 134 hectare (331 acre) Olympic Village for the Xth Olympiad hosted by Los Angeles in 1932. The idea of the Olympic village was conceived from a deep sentiment that children of all nations could live peacefully, side by side, regardless of color, race or creed. As Los Angeles finds itself again the host of the Olympiad in 1984, an Olympic Forest on the site of the previous Olympic Village seems to be an appropriate gesture to commemorate the Olympic spirit of internationalism.

The concept of an Olympic Forest involves the planting of at least one representative tree species from each nation that participates in the Olympic Games. The forest would be designed to group trees into various vegetation life zones with pedestrian access via interpretive trails.

Derivative Theme

The primary theme of an Olympic Forest would be greatly enhanced by the introduction of a derivative theme which explores the relationships of various international cultures and plant life. The multi-ethnic composition of the Los Angeles urbanites lends validity to this theme. Other topics of interest may include:

- o The economically important plants and trees of the world



OLYMPIC VILLAGE IN THE BALDWIN HILLS AREA
(Xth Olympiad, Los Angeles, 1932, Official Report - 1933)



FIRST CONTINGENT FROM BRAZIL



CANADIAN ATHLETES DISPORTING ON LAWN
(Xth Olympiad, Los Angeles, 1932, Official Report - 1933)

and the effect of these plant products on the cultures from which they came.

- o Global origin and distribution of the plant species currently used in the California gardens and landscapes. This theme stresses the compatibility of plants from different environments and how people from all nations have made their home in California.

SECONDARY THEMES

Planting California Native Plants

This theme will introduce the beauty and diversity of California native flora with emphasis on its evolution and merits. It will complement and contrast the primary theme of Olympic Forest where trees species from all over the world are exhibited. In addition, it can be demonstrated how drought tolerant plants of California natives and other introduced species may be used to create a pleasing garden which conserve water resources. The use of water conserving irrigation systems shall be stressed.

Flora and Fauna

This theme will interpret the plant communities and wildlife of the site. Plant identification signs could be posted along the trails. Local vegetation could be compared to the native flora. Key features of urban ecosystems could be explored.

Urban Geography

This theme will interpret the enormous variety of environmental factors and patterns as they interest and affect the user-participant (services, transport, food, shelter, education, recreation, and energy). The close interdependences of the components of our total environment determines the quality of our life styles. Understanding of the urban environment relies on recognition of these components.

The urban geography interpretive program should be based on the following considerations:

- o Juxtaposition - Opportunities for comparison and contrast of natural determinants, and man's accommodations and uses. The scale of man to both his biological and self-created habitat.
- o Elevation (peaks) - Opportunities for assessment and evaluation of land use, historical evidences, and planning projects provided (if possible) by a 360 degree unimpeded panoramic viewshed.
- o Contiguous Open Space - Opportunities for individual experience flow through multiple use of sites for

recreation/education/being; recognition of changing activity preferences, without the label.

- o Skills setting - Opportunities for observing, experimenting, walking, listening, on a continuing basis, dealing with the environment as a whole; preparing for opportunities in other areas, such as other state parks.
- o Accessibility - Opportunities for repeated personal visits on an unscheduled interest basis (recreation, leisure time, special inclinations).
- o Laboratory source - Opportunities for long-range research on nonliving and living forms (including man and his activities); reinforcement of concern with man's impact on his life source.

Discussion will cover such areas as the airport, the harbor, the downtown region, and other prominent manmade features and why they were located where they are. Other possible topics are climate and air quality.

- o DPR - Urban Parks Program - Opportunities for information dispersement about the State Parks System, more specifically, the Urban Parks Program and the factors which influenced its creation.

Petroleum Production

This theme will investigate the formation, extraction, and refining of petroleum and the manufacture of petroleum products. Special emphasis will be placed on the finite quantity of the resource, relating this to the history of extractive methods and current innovations in this field. The Baldwin Hills operation, which should be visible from the Interpretive Center, will serve as a "living" exhibit here. The dependence of our civilization on the enormous diversity of petroleum products, from fiber to food additives, should also be a focus of the material presented relative to this theme.

Derivative Themes

- o Baldwin Hills Oil Field History - This theme will interpret the history of the Inglewood Oil Field, its impact on the surrounding environs (including its part in reserving open space), and its expected life span.
- o Seismic Fault Activity - This theme will concentrate on the Newport-Inglewood Fault as a major influence on the topography, creation of the oil field and future urban development.
- o Resource Management: Keeping What We Have - This theme

will cover practical matters dealing with energy conservation, landscape reclamation, fire prevention, etc., using the Baldwin Hills as an example from which to generalize to the natural landscape as a whole. It will treat more nebulous areas, such as replacment sources for hydrocarbons from which many of the products we now make from oil (plastics, fabric, food additives) might be synthesized in the future.

- o The Baldwin Hills: Cultural History - This theme will interpret the cultural history of the Baldwin Hills including the past occupation by the Tongva Indians, the influence of the missions, the development of Rancho Cienega O'Paso de La Tijera, and ownership by E.J. Baldwin. Additionally, this theme will cover the early development of urban water systems and the Baldwin Hills dam failure, its impact on the surrounding community and later water storage facilities.

METHODS AND MEDIA

An Interpretive Center is proposed for the Olympic Forest area and will house electronic media presentations, as well as more conventional interpretive methods such as written and verbal presentations, graphics, and A/V or video. Other appropriate media would be demonstration displays or working models to simulate various processes.

Enormous technical displays, such as multi-projector slide or movie presentations will be less desirable here than media that require visitors to take some action. One of the objectives of the Interpretive Center will be to avoid as much as is feasible putting visitors in the position of accepting interpretive material passively.

Consistent with the central interpretive focus of the SRA, there could be several exhibits dealing with the secondary themes, more specifically the cultural and historic uses of the Baldwin Hills, demonstrations of resource management and seismic activity, and urban geography.

Interpretation outside of the Interpretive Center will be in the form of signs along trails, story panels at lookouts, and plaques identifying trees in the Olympic Forest. For interpretation of the themes: Planting California Native Plants and Olympic Forest, a demonstration garden and an Olympic Forest will be the facilities designed to accommodate the interpretive elements.

The outdoor exhibits, and perhaps guided tours, will be aimed at giving visitors a sense of the natural values of an inner city open space. These exhibits will attempt to foster an appreciation of natural spaces, however limited, as places of refuge within the urban setting.

OPERATIONS ELEMENT

As has been the tradition with joint State and County projects, the operation of the Baldwin Hills SRA will be the responsibility of the County of Los Angeles under mutual agreement with the State of California. It is the goal of the operations element to maintain the unit for recreational and interpretive use of Baldwin Hills, both now and in the future.

Initial Operation

The initial operation of the unit will include the following: resource protection, fire control, visitor services, security, and facility maintenance.

RESOURCE PROTECTION

As identified in the resource element, resource monitoring will be necessary to develop programs for resource protection.

FIRE CONTROL

Baldwin Hills is accessible by a network of service roads which have been constructed to serve the oil production facilities. Vegetation, especially in the low development areas, must be continuously monitored for potential fire hazard.

SECURITY

Los Angeles County Park Patrol will be responsible for initial enforcement and will be supplied with four-wheel drive vehicles to ensure permanent, full time security for the SRA and surrounding community. Approximately 3474.7 meters (11,400 linear feet) of security fencing will be installed along the northern perimeter of the 22 hectare (54 acre) buffer zone for the protection and safety of the adjacent residential areas. In addition, the SRA will be closed at night with the exception of the supervised group campground area. It should be noted that the campground is available to groups through reservations only.

VISITOR SERVICES

Additional visitor services will include camping, trails, interpretive center, headquarters building and maintenance yard. Signing for the buffer zone, interpretive activities and programs, and facilities will be identified.

FACILITY MAINTENANCE

General maintenance of facilities and landscaping will be performed on a regular basis by Los Angeles County maintenance personnel.

Future Operations

As the SRA becomes established with regular visitor numbers, alternative operation methods may be investigated, such as, private maintenance contracts, volunteer programs and full-time unit staffing.

The scope of the Interpretive Center's size and contents should include a vigorous program to enlist private (commercial/ industrial) contributions (money, technical assistance, and/or material donations). Acknowledgements through a public relations program should be implemented prior to the construction of the center.

ENVIRONMENTAL IMPACT ELEMENT

Section 5002.2 of the Public Resources Code requires that each state park unit general plan include an environmental impact element, and that this element satisfy the environmental documentation requirements of the California Environmental Quality Act of 1970 (CEQA), Public Resources Code Section 2100 et seq.

The description of the project is contained in the preceding sections of this report.

Description of the Environmental Setting

Unless otherwise referenced, information contained in this section is drawn from the Environmental Impact Report for Baldwin Hills Regional County Park prepared by the County of Los Angeles Department of Parks and Recreation in May, 1981. This document is a matter of public record, and is available for public review at the County of Los Angeles Department of Parks and Recreation, 433 South Vermont Avenue, Los Angeles, California 90020. The portions of that document contained in this section are hereby incorporated by reference. Information has been reduced to avoid redundancy with other elements.

TOPOGRAPHY

The Baldwin Hills are located in the west central portion of the Los Angeles Basin. The unit is characterized by steep slopes to a flat basin floor, canyons, and a northwest-trending ridge forming a plateau. Elevations vary between 27 to 155 meters (90 to 510 feet) above sea level.

METEOROLOGY

See Resource Element, page 11.

HYDROLOGY

The topography of the "SRA concentrates much of the rainfall runoff to the canyon areas that drain the major watershed. The climate in the Baldwin Hills is influenced by nearby coastal influences. The mean seasonal precipitation is 28 centimeters (11 inches) with most of the rainfall occurring in the months of November through March.

The majority of the ground water basin is non-water bearing. Some areas below the canyons have reports of water being encountered as shallow as 5 meters (16.5 feet). In general, the ground water table is quite deep below most of the site. The majority of the rainfall that occurs is contained within the boundaries. During major storms, some overflow does occur and is transported through existing storm drains and exits into the Pacific Ocean via

Ballona Creek.

The steep topography has been subject to much erosion activity in the past. Where unauthorized uses have occurred, such as motorcycle riding, the erosion has increased. This erosion activity has caused alluvium deposits to collect in several of the canyon areas.

GEOLOGY

See Resource Element, page 12.

SOILS

See Resource Element, page 14.

PLANT LIFE

See Resource Element, page 15.

ANIMAL LIFE

See Resource Element, page 16.

MINERAL RESOURCES

Numerous oil wells occupy the 526 hectare (1,300 acre) open space area, however, the SRA is unencumbered. The majority of the remaining portions are being utilized for oil extraction or production purposes. The oil reserves beneath the unencumbered areas have been reduced by past oil production activities. Estimates vary, based on the present and estimated future value of the oil coupled with continuing improvements in the oil industry, but extend the life of the oil reserves well into the 21st Century. No other major mineral resources are known to exist within the boundaries.

CULTURAL RESOURCES

The cultural history research of the Baldwin Hills consisted of library references and field reviews of the area. The report, prepared by the Department of County Engineer-Facilities is available for review at the County of Los Angeles Department of Parks and Recreation. While no historic structures or archeological sites are within the Baldwin Hills SRA, the cultural history of this area is widely represented by a long history of man and his adaptation to the environment. Man is represented in the history of Baldwin Hills from the Pleistocene period to the present. The discovered site of the "L.A. Man" is located less than one-half mile away, near La Ballona Creek. Two areas of particular interest are the past use of the area by the Tongva Indians and the Mexican period with the presence of several ranchos. The rancho that comprised the majority of Baldwin Hills

was called Rancho Cienega O'Paso de la Tijera.

URBAN DEVELOPMENT

A variety of land uses surround the SRA. These uses include single and multiple family residential developments, shopping centers, oil related production and transfer stations, West Los Angeles College, Southern California Edison Co. substation, and Holy Cross Cemetary. In addition, many public support facilities including restaurants, gas stations, and small retail stores are located near the unit. The County of Los Angeles maintains a fire station to the south at the intersection of Fairfax and Slauson Avenues.

The setting surrounding, all of which is visible from the many vista points on the unit, includes the Pacific Ocean, 9.6 kilometers (6 miles) to the west; Century City, 8 kilometers (5 miles) to the north; Los Angeles International Airport, 8 kilometers (5 miles) to the southwest; and the Los Angeles Civic Center, 9.6 kilometers (6 miles) to the east. On most days, the Santa Monica mountains and the Palos Verdes hills are visible. The Baldwin Hills represent a major open space area in a densely populated urban area.

Information regarding the socio-economic makeup of the heavily urbanized area surrounding Baldwin Hills is based on the 1970 Federal Census. The Baldwin Hills Acquisition EIR, pages 22 through 23, states two major community types surround the site. Since the 1980 census had not been published at the time this report was prepared, a visual windshield survey was conducted within a one-half mile radius of the site to verify the demographic information contained in the Baldwin Hills Acquisition EIR. Based on this survey, the information contained in the original EIR appears to adequately represent the ethnic composition of the area.

The community to the south and west consists of a large percentage of Anglos (87 percent), with a small percentage of Black, Spanish, and others. The community to the north and east of the park, within the Los Angeles City limits, consists of a large percentage of Black (70 percent) and a smaller percentage of Anglos, and others. The diversity of the communities adjacent to the SRA, and the 2.5 million people that live within 16 kilometers (10 miles), exemplify the most densely populated urban area within the State. The Baldwin Hills area is within the largest economically disadvantaged area of the State.

UTILITIES

Reference is made to the Baldwin Hills Acquisition EIR, page 26, for a discussion of available utilities. The heavily developed nature of the areas surrounding Baldwin Hills has caused the necessary utility systems to be extended to the areas adjacent to

the unit.

Where current utilities such as water and sanitary sewers are not adequate to meet the requirements once development occurs, some utility construction may be necessary. The low level of development proposed is not expected to cause the construction of extensive new utilities. Most construction, if required, e.g., water pressure pumps to serve the upper levels of the unit would occur within the boundary of the unit.

ACCESS

See Resource Element, page 4.

Environmental Impact

Impact on the environment caused by the proposed General Plan will be minimal. The primary resources of Baldwin Hills State Recreation Area is its large open space value and many vistas of the surrounding ocean, mountains and urban community.

LANDFORMS

The basic concept of the development of the Baldwin Hills State Recreation area is to create an "urban forest." The implementation of this concept will leave much of the unit in its natural state. The major landforms within the boundaries of the project will generally be preserved in their natural state.

The presence of major fill areas on this site will require soil studies to determine the bearing capacities of the uncompacted fill material and to what degree recompaction will be necessary using approved compaction methods. Grading will be required to recontour portions of the existing terrain and to minimize erosion areas by reducing slope steepness. The development will also require modifications to the landform to permit entry and access roads and parking areas to be constructed.

The cumulative effect of the grading required and its environmental effects will primarily occur during the time that actual construction occurs. Once development is complete, it is expected that any environmental effects that occurred during construction will be greatly reduced by the removal of unsafe and geologically unsound areas, such as unstable hillsides and uncompacted fill areas, and the revegetation of many areas of the site.

HYDROLOGY

The ground water quality within the project boundary will not be significantly affected by the proposed development. Construction will change the existing drainage patterns within the project area, but these changes are expected to improve the drainage in

areas that are susceptible to erosion and gullyng. The planting of fast-growing trees and shrubs as part of a revegetation program proposed is expected to further improve the drainage and reduce runoff. In addition, the restoration of the natural ground cover on areas of the unit will increase percolation, resulting in a further reduction of runoff. Development will not cause any drainage to be directed onto property adjacent to the SRA.

AIR QUALITY

The long-term effect on the air quality in the area should result in an improvement. This is based on the fact that the amount of vegetation of the unit will increase as the site is developed and this open space area preserved.

Development is not expected to significantly increase the consumption of energy. The proposed uses will require low levels of energy usage for the provision of security lighting, heating, and lighting of park buildings, and overall maintenance of the SRA.

The grading and construction activities required for construction are expected to increase the short-term dust levels in the area. It is anticipated that once construction is complete, dust levels will be reduced.

BIOTIC

No rare or endangered plant or animal species were observed during site surveys, nor are any known to exist on the SRA. The proposed plan should not have an adverse effect on the flora and fauna in the area. The reintroduction of native plant materials will aid in returning disturbed areas back to a more natural state.

CULTURAL

An extensive study was conducted by the Northridge Archeological Research Center in 1978, and determined that no indirect or direct adverse impact on known archeological resources is expected as a result of development.

ACCESS

The major roads serving the project area are La Cienega Boulevard, La Brea and Fairfax Avenues, Stocker Street and Jefferson Boulevard. All these streets are major traffic arteries serving the Baldwin Hills area. The Los Angeles County Road Department has previously indicated that the traffic generated from the development is expected to cause significant increase on existing or proposed streets and highways but this increase is not expected to result in a significant adverse impact.

Peak use of the SRA does not coincide with peak traffic flows on the streets in the surrounding area. Therefore, the major roads serving the unit should adequately handle the additional traffic generated. While highway capacity would not be significantly affected, the creation of new intersections at the access locations on major traffic arteries will influence traffic flow and increase the potential for rear-end accidents, as do all signalized intersections.

To mitigate the above, the County Road Department has recommended that access to the unit be located at existing signalized intersections. The access to the SRA will be only from the above-mentioned traffic arteries and no public access will be allowed from any residential street adjacent to the property. In addition, the development of adequate acceleration and deceleration lanes was also recommended.

Adverse Environmental Effects Which Cannot Be Avoided

It is the intent of Baldwin Hills State Recreation Area to provide the general public with an opportunity to enjoy this unique open space. In addition to this primary purpose, the unit has the potential to serve as an interpretive center.

The General Plan is consistent with these purposes and carefully considers the environmental conditions. Those impacts which are unavoidable are minimal and can be substantially mitigated.

1. Some modification of the existing landforms will be required in the placement of roads, buildings, support and recreational facilities proposed by the development plan.
2. An increase in traffic volumes is expected to create a minimal impact on visual quality, noise levels, and air quality.
3. The use of mineral and other resources will be required in development. While this use is not expected to be significant, the permanent commitment of resources to construct roads, buildings, landscaping and other facilities cannot be avoided.
4. Some impact to the biotic community will be created by development and increasing the concentration of people in the area. It is anticipated that any reductions that occur will be offset by landscaping and revegetation of portions of the unit.
5. Development of the SRA could increase the incidence of vandalism.

Mitigation Measures Proposed To
Minimize The Impact

The following measures are proposed to mitigate the impacts the general plan may have on the environment:

1. All proposed grading will be in accordance with existing guidelines set forth by The County of Los Angeles. Cut and fill areas should be no steeper than 2:1 (26 degrees). To further minimize erosion potential, revegetation will occur on portion of the SRA. Plant materials will be chosen for their slope stability capabilities.
2. The majority of construction will only modify natural drainage areas when necessary to improve drainage control and reduce erosion.
3. Development will mitigate any impacts on air quality in the area by preserving major green space areas within the unit boundary and reducing the vehicle miles necessary for the community to travel by providing a closer SRA. During construction, a dust abatement program using water trucks and other accepted dust control measures will be implemented to reduce dust levels.
4. Development will proceed in an orderly, planned manner to minimize the effect upon the plant and animal communities. Development will be phased to allow certain areas to be revegetated and preserved to protect the important natural areas before other areas are developed for recreation uses.
5. The actual impact of construction on the community will be limited by the provisions of the construction specifications governing the project. Traffic guidelines during construction governing times of use and routes to be followed would limit the impact on traffic in the area. During construction, the contractor would be required to maintain adequate controls on noise and dust in the construction zone.

In some areas, the development will be near residential neighborhoods. In order to lessen the impact of the proposed development on these areas, buffer landscaping and naturally vegetated zones are proposed as well as security fencing and 24-hour surveillance. In this way, use areas will be separated from the existing residential areas.

The vehicular access will occur from the major arterial streets. No access will be allowed through the the residential streets.

Alternatives To The Proposed Action

NO PROJECT ALTERNATIVE

This alternative would result in a continuing deficiency of recreation and open space in the area. It would be in direct conflict with the stated purpose of the SRA.

REDUCED PROJECT ALTERNATIVE

The primary objective of the unit is to provide a significant open space area in the center of a heavily urbanized area. A major reduction of over 25% of the unit would restrict development of the multi-use regional recreation center concept which is severely deficient in this area of Los Angeles County. A small reduction of up to 10%, while it may not remove the potential to develop all the facilities proposed by the General Plan, would infringe upon the proposed use areas.

ACTIVE PARK ALTERNATIVE

The development of more extensive facilities would require additional construction to occur on portions of the unit identified as unable to sustain intensive development. The SRA's natural resources must be preserved in the General Plan to meet the goals of the classification.

Relationship Of Local Short-term Uses Of Man's Environment And The Maintenance And Enhancement Of Long-term Productivity

The short-term effects of the construction of the Baldwin Hills State Recreation Area would be offset by the long-term benefits of preserving a large open space area providing recreation opportunities for present and future generations.

Irreversible Environmental Changes Which Would Be Involved

The development of the SRA will require the commitment of non-renewable natural resources. Because of the low level of development proposed for much of the project, it is not expected that the resources committed will be substantial.

The use of land for recreation purposes would eliminate the potential for other types of development. This primary irreversible change caused by the project is a physical change and commitment of the land.

The initial and future phased development of the unit will commit future generations in the area to the use of the area for recreation purposes. The present inaccessible areas of the unit

will require road improvements on and near the unit that will directly impact the community by increasing traffic in the area.

Growth Inducing Impact

The area surrounding the SRA is a well-established, urbanized area with little possibility for further expansion or growth within the vicinity of the project. The project will have an effect on the public utility and transportation systems in the area, but it is not expected that this increase will be significant.

The Baldwin Hills Acquisition EIR stated that "The proposed park project may have an indirect growth-inducing impact by upgrading the amenities which provide incentives for people to live in the area. The proposed Baldwin Hills Regional Park will increase participation in regional and local recreation activities."

The development of the SRA will require an additional commitment of manpower and financial resources by the County and the State once the unit is developed and ready to operate. It is expected that this increased commitment to operate the SRA will be reduced by developing innovative and practical volunteer programs involving the local community.

Organizations Consulted In Preparing Environmental Impact Report

The following organizations and individuals were consulted during the preparation of this element:

Los Angeles County Departments Consulted

Arboretum and Botanic Gardens
Assessor
Communications
County Counsel
County Engineer-Facilities, Real Estate Branch
Flood Control District
Forester and Fire Warden
Health Services
Museum of Natural History
Parks and Recreation
Regional Planning
Road Department
Sanitation Districts
Sheriff's Department
South Coast Air Quality Management District

Others Consulted

Anaheim Parks and Recreation Department

Archeological Survey, University of California at Los Angeles
California State Parks Foundation
Chevron USA, Inc.
Conservation Department, Division of Oil and Gas, State of
California
Culver City Police Department
Flint & McKay, Attorneys at Law
Getty Oil Company
Inglewood, City of
Los Angeles Investment Company
N. Van Wigen, Consulting Petroleum Engineer
National Park Service
Northridge Archeological Research Center, California State
University, Northridge
Pacific Telephone Company
Parks and Recreation Department, State of California
Planning Department, City of Los Angeles
Recreation and Parks Department, City of Los Angeles
Slossan and Associates
Southern California Association of Governments
Southern California Rapid Transit District
Unified School District, City of Los Angeles
West Los Angeles College

SELECTED REFERENCES

Natural Resources:

- Ashton, R.E., Jr. 1976. Endangered and Threatened Amphibians and Reptiles in the United States. Society for the Study of Amphibians and Reptiles 65 pp.
- Bailey, Harry P. 1966. The Climate of Southern California. University of Southern California Press. Berkeley Los Angeles. 87pp.
- California Department of Water Resources, 1964, Investigation of Failure-Baldwin Hills Reservoir, 64p.
- California Department of Water Resources, 1961. Planned Utilization of Ground Water Basins of the Coastal Plan of Los Angeles County; Ground Water Geology: Bulletin 104. 181pp.
- California Division of Mines and Geology staff, 1982, Slope Stability and Geology of the Baldwin Hills, Los Angeles County, California: California Division of Mines and Geology Special Report 152, p. 3-6.
- Castle, R.O. 1960 - Geologic Map of Baldwin Hills Area, California USGS, Open File Report, Map Scale 1:12,000.
- Engineering Geology Consultants, Inc. 1975, Geologic-seismic investigation of proposed Baldwin Hills regional park sites: Unpublished geotechnical report for Los Angeles County Counsel, Engineering Geology Consultants, Inc., Van Nuys, California.
- Guptill, Paul D. and Heath Edward G. 1981. Surface Faulting Along the Newport-Inglewood Zone of Deformation: California Geology, V. 34, No. 7, p. 142-148.
- Hart, E.W., 1980, Fault rupture hazard zones in California: Alquist-Priolo Special Studies Zones Act of 1972 with index to special studies zones maps. California Division of Mines and Geology Special Publication 42; revised March 1980, 25 p. (Newport-Inglewood fault zone; Figures 1 and 5e).
- Kato and Jordan / Takata Associates - Joint Venture. 1982. Inventory of Features, Baldwin Hills Project. County of Los Angeles, Department of Parks and Recreation / State of California.
- Kovacs-Byer and Associates, 1982, Geologic and Soils Engineering Investigation, Phase 1, Baldwin Hills Regional County Park, South and West of Baldwin Hills Reservoir, Los Angeles County, California.

- Los Angeles County Engineer, Geology Section 1975, Geologic-Seismic Report, Proposed Baldwin Hills Regional Park, unpublished.
- Los Angeles County Whittier Narrows Nature Center, 1977, Survey Flora and Fauna, Proposed Baldwin Hills Regional Park, unpublished.
- Los Angeles County, Department of Health Services. Sound Measurement Study for Community Noise at the Proposed Baldwin Hills Regional Park. August 22, 1980.
- Los Angeles County, Department of Parks and Recreation. 1975. Environmental Impact Report, Baldwin Hills Regional County Park.
- Los Angeles County, Department of Parks and Recreation. 1981. Environmental Impact Report, Baldwin Hills Regional County Park.
- Los Angeles County, Department of Parks and Recreation. 1980. Master Plan, Baldwin Hills Regional County Park and State Recreation Area.
- Meserve, P.L. 1976. Food Relationships of a Rodent Fauna in a California Coastal Sage Scrub Community. J. Mamm., 57:300-319.
- Powell, W. R. 1974. Inventory of Rare and Endangered Vascular Plants of California. Special Publ. No. 1, California Native Plant Society. 56 pp.
- South Coast Air Quality Management District. 1981. Summary of Air Quality in the South Coast Air Basin. El Monte, California.
- Thorne, R. F. 1976. The Vascular Plant Communities of California. In Symposium Proceedings: Plant Communities of Southern California. J. Latting, ed. Special Publ. No. 2, California Native Plant Society.
- U.S. Department of Agriculture, 1969. Report and General Soil Map, Los Angeles County, California: Soil Conservation Service. 70 pp.
- Yerkes, R.F., et al., 1965, Geology of the Los Angeles Basin, California, an introduction, U.S. Geological Survey Profession Paper 420-A, 57p.

Cultural Resources:

- Bean, Lowell John, 1972a, Mukat's People: The Cahuilla Indians of Southern California. University of California Press, Los Angeles and Berkeley.

Bean, Lowell John, 1972b, Temelpakh: Cahuilla Indian Knowledge and Usage of Plants. Malki Museum Press, Banning, California.

Clewlow, C. William, Jr., 1975, Evaluation of the Archeological Resources and Potential Impact of the Development of Baldwin Hills County Regional Park, unpublished.

Farmer, Malcolm, 1963a, "California Archeology, Baldwin Hills Area, Los Angeles Region" AKA "Preliminary Notes of an Archeological Reconnaissance of Indian Camp Sites in the Baldwin Hills-Ballona Creek Region of Los Angeles County, California." Ms. on file, San Diego Museum of Man and Archeological Association, La Verne, California.

Heizer, Robert F. (editor), 1968a, The Indians of Los Angeles County: Hugo Reid's Letters of 1852. Southwest Museum Papers No. 21. Los Angeles, California.

Johnston, Bernice Eastman, 1962, California's Gabrielino Indians, Publication of Frederick Webb Hodge Anniversary Publication Fund 8. Southwest Museum, Los Angeles, California.

Stock, Chester, 1930, Rancho La Brea: A Record of Pleistocene Life in California. Los Angeles County Museum of Natural History, Science Series #20.

Tartaglia, Louis James, 1910, The Official Account of the Portola Expedition of 1769-70: Diary of Gaspar de Portola. Publications of the Academy of Pacific Coast History 1 (2):15-29. University of California Press, Berkeley, California.

Wallace, William J., 1955, A Suggested Chronology for Southern California Coastal Archeology. Southwestern Journal of Anthropology 11 (3):214-230.

Recreation Resources:

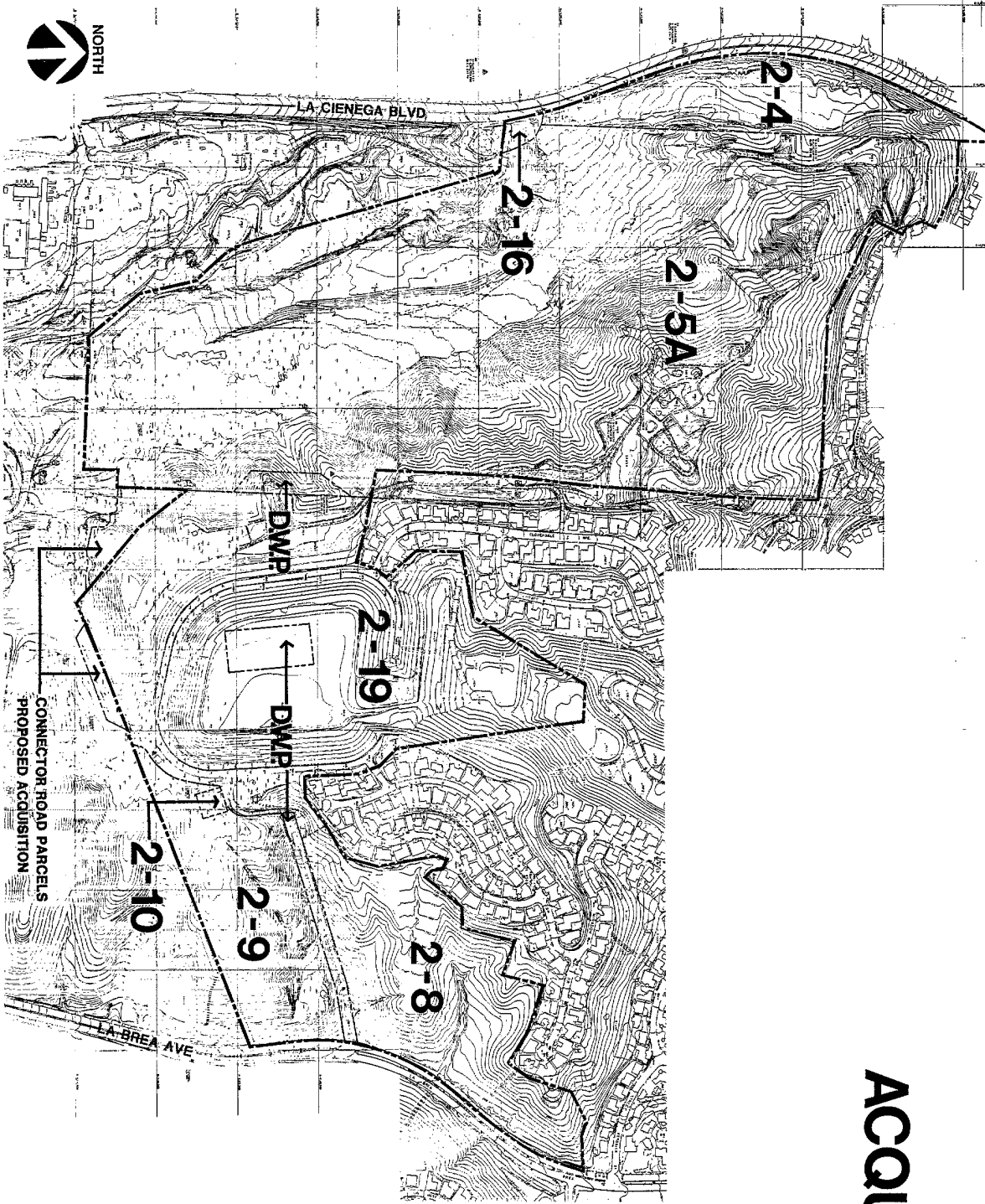
California State Parks System Plan 1980, State Department of Parks and Recreation, March 1980, 65p.

Quarterly Bulletin No. 141, July 1, 1978, Department of Regional Planning, County of Los Angeles.

Recreation Outlook in Planning District 8, State Department of Parks and Recreation, October 1979, 13 p.

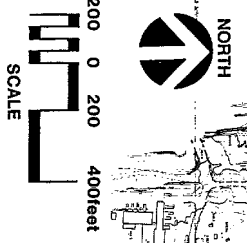
APPENDIX

PROPOSED ACQUISITION PLAN



LEGEND

- 2-14 PARCEL NUMBER (TYPICAL)
- DWP DEPARTMENT OF WATER & POWER
CITY OF LOS ANGELES
- PARCEL LIMIT LINE
- STATE RECREATION AREA BOUNDARY

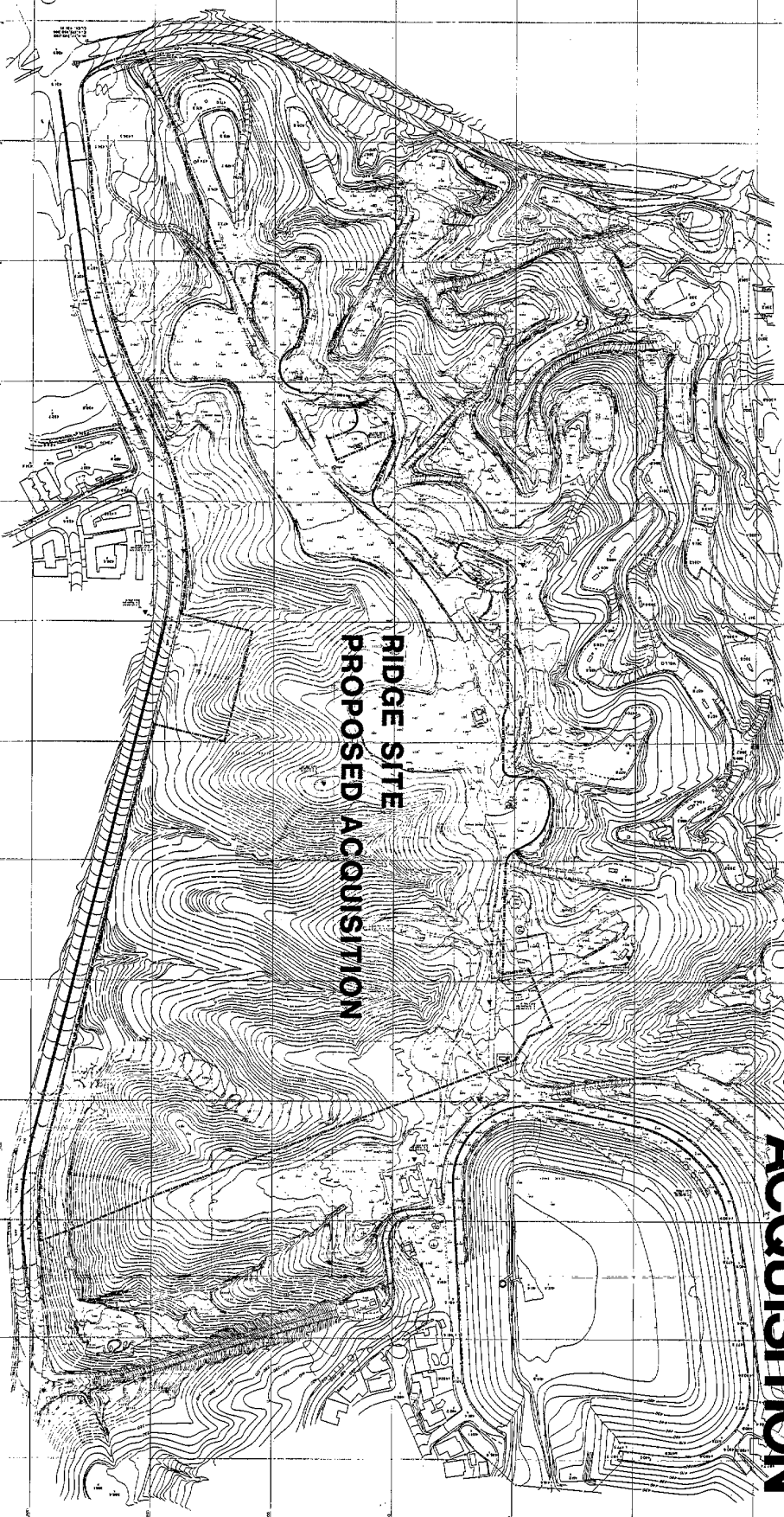


BALDWIN HILLS STATE RECREATION AREA

SHEET 1

PROPOSED ACQUISITION PLAN

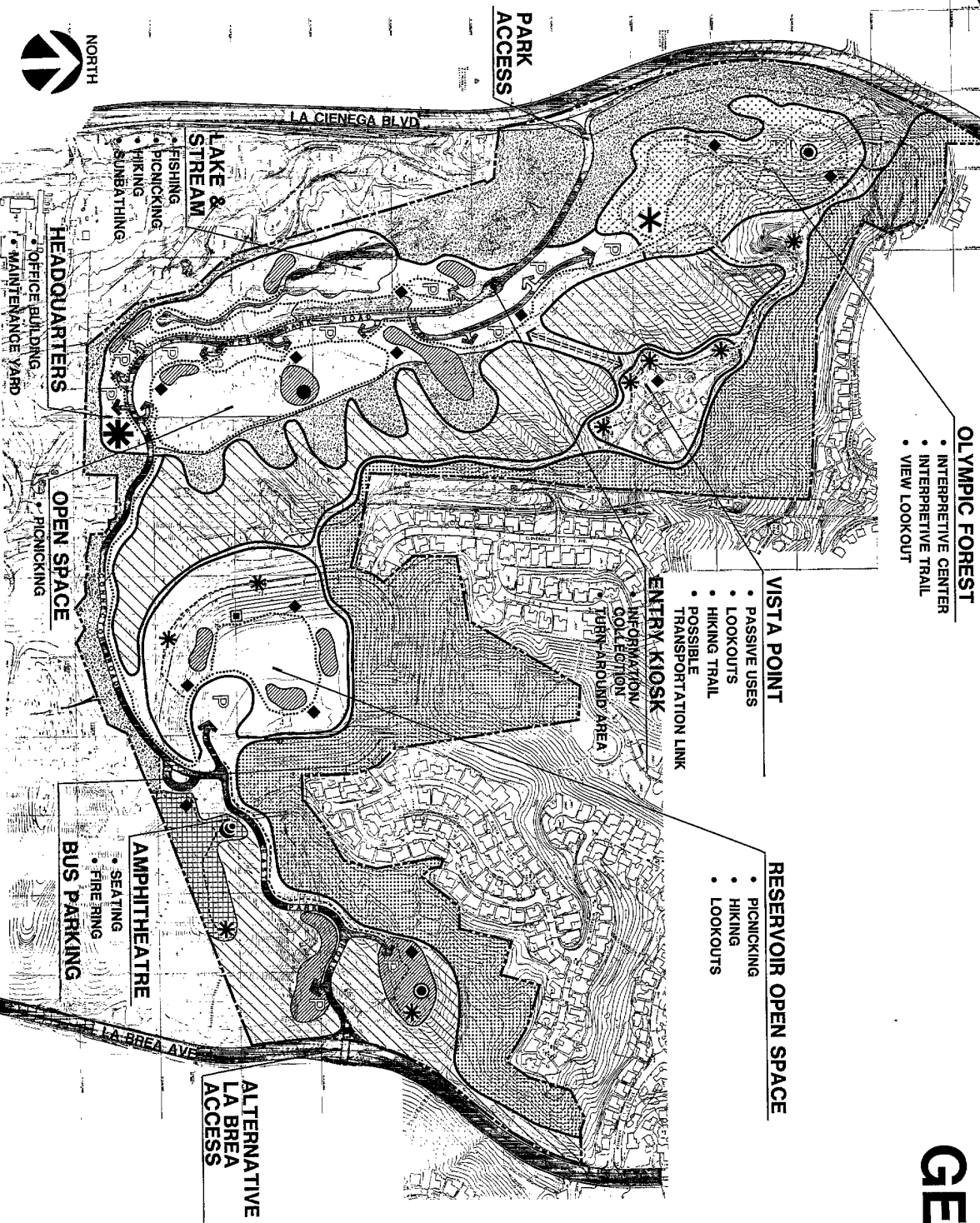
RIDGE SITE
PROPOSED ACQUISITION





















BALDWIN HILLS STATE RECREATION AREA

SHEET 2

GENERAL PLAN



LEGEND

-  PRESERVATION ZONE
-  BUFFER ZONE
-  SLOPE STABILIZATION/ TRANSITIONAL LANDSCAPING
-  OLYMPIC FOREST
-  PICNIC AREA
-  GROUP CAMPING
-  HEADQUARTERS / MAINTENANCE YARD
-  INTERPRETIVE CENTER
-  OBSERVATION LOOKOUT
-  FOOD SERVICE
-  COMFORT STATION
-  PLAY AREA
-  PARKING AREA
-  CONCESSION
-  TRANSPORTATION LINK
-  PEDESTRIAN WALKWAY
-  HIKING/RIDING TRAIL
-  STATE RECREATION STUDY AREA BOUNDARY

BALDWIN HILLS STATE RECREATION AREA

