HIDDEN SPRINGS

By Griffin Homes

22 Falcon Ridge Drive Pomona, Ca., 91766

SPECIFIC PLAN/E.I.R.

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SECTION I

Executive Summary

I. EXECUTIVE SUMMARY

A. SPECIFIC PLAN SUMMARY

The planning for Hidden springs has used an eco-systematic approach wherein a complete environmental analysis of the site was performed during the planning process. The land use plan therefore responds to a known set of opportunities and constraints. In this context, this document has been prepared as a fully-integrated Specific Plan/Environmental Impact Report.

This Specific Plan will allow the development of housing within market type and price ranges already demonstrated to be in large demand in the Moreno Valley area, with greater attention to recreation, environment and lifestyle. As discussed in Section III of this document, the development plan is consistent with the County's Comprehensive General Plan.

The following Specific Plan Summary provides a brief description of the project that will enable the reader to better analyze the project as it relates to the environmental setting, impacts and mitigation of Section III. A complete and thorough discussion of the project proposal is contained in Section IV, Specific Development Plan.

1. Location

The project site, comprised of 483 acres, is located in the northwestern portion of the Moreno Valley east of the City of Riverside. More specifically, the site is just west of Pigeon Pass Road approximately 1-1/2 miles north of Highway 60. 279 acres of the 483-acre site are a part of Sunnymead Ranch (formerly referred to as the North County Specific Plan). The remaining 204 acres are located just north of the 279 acre Sunnymead Ranch parcel.

Access to the site is currently provided by Pigeon Pass Road. Access will also be possible in the near future from the east via Sunnymead Ranch Parkway and Old Lake Road which will be constructed as a part of Sunnymead Ranch.

2. Project Design

Hidden springs is envisioned as a high-quality residential community. The natural open space system and trails will serve as a major project

amenity and will complement the open space system incorporated in the Sunnymead Ranch Specific Plan to the east. The overall grading concept and site layout design not only respond to topographic, geologic and hydrologic constraints of the site but also take advantage of the panoramic views of the Moreno Valley to the southeast and existing tree masses on site.

The project will be identified and unified through design elements such as architecture, signage, landscaping, color, paving, walls, fencing, and entry treatments consistent with the theme already established at Sunnymead Ranch. Some variability of design will be allowed so that individual development enclaves, while still identifiable and compatible with the overall community, will be able to establish their own individual design character.

3. Land Use and Density

As shown in Figure I-1, the land use plan for Hidden Springs includes several single family residential densities, a school, natural and developed open space, trails, and major roads.

a. Residential Uses - Hidden Springs proposes varying densities of single family residential development. Minimum and maximum dwelling units are shown for each of three density ranges. A "target" number which represents the middle of the density range is also given. While the number of dwelling units may fluctuate within each density range, the total "target" of 1214 dwelling units (generating a population of 3132 persons) will not be exceeded when the project is fully developed.

b. School - A 6.8-acre site has been designated for an elementary school that will serve not only the project area but also surrounding residential neighborhoods.

c. Open Space and Recreational Uses - 181.8 acres (38% of the site) are designated for open space, park, and trail use. These areas will include natural open space, parks, naturalized paseo greenbelts, slopes, natural drainage courses, and pedestrian and equestrian trail systems. See Section IV.E. for further details.

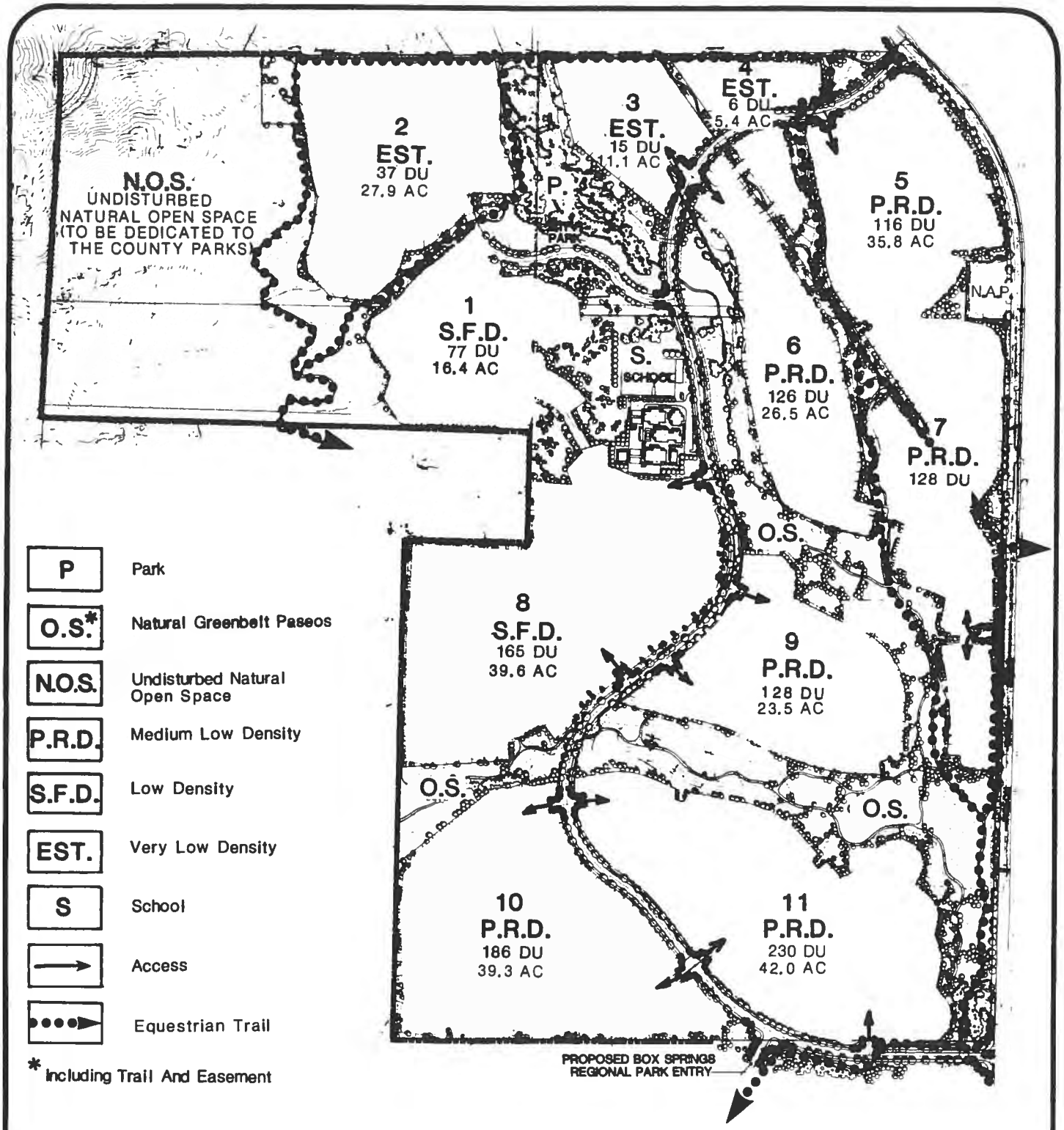

Figure I-1

Specific Land Use Plan

HIDDEN SPRINGS

By Griffin Homes

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4. Circulation

The proposed circulation system for the project contains roadway widths, alignments, and access locations that respond to the traffic service needs of the project area as identified by the Riverside County Road Department.

Primary access to the site will be provided from the south via Pigeon Pass Road, a County master planned secondary. Access will also be possible from the east by Old Lake Road (a secondary) and Sunnymead Ranch Parkway (an arterial).

Roadways on site include a main collector loop which intersects Pigeon Pass Road in two places. The remainder of project roadways are local streets. All roads are designed to meet Riverside County standards.

Non-vehicular circulation is also provided for the proposed project. A master pedestrian trail loop and a bike path are proposed that will parallel the main collector loop. Informal trails will also be found throughout the paseo greenbelts. These trails will provide project residents with non-vehicular access to the school and parks on site. Project trails will also link to those portions of Sunnymead Ranch east of Pigeon Pass Road.

5. Open Space and Recreation

A comprehensive open space and trail system is provided within the project. In response to topographic, geologic, vegetative, and hydrologic constraints, an open space system has been designed that 1) preserves much of the significant natural vegetative communities of the site, 2) provides a dual useable open space/flood control function and 3) responds to the alternating plateau/valley landform of the site.

Undisturbed natural open space areas are found on the northern and western periphery of the site. Inside the main collector loop, a natural paseo greenbelt system will include existing drainage courses, naturalized planting on manufactured slopes, turfed picnic and passive use areas, desilting basins, and an extensive trail system. The significant Eucalyptus stands on the site will be retained as a wooded public park. Additional trees will be planted to provide continuity throughout the open space and to articulate major open space features such as the park and picnic areas. The trail system proposed will provide non-vehicular linkage between the residential portions of the project

and the school and park. The trail system has been designed to allow linkages to both the Sunnymead Ranch east of the site and to Box Springs Regional Park.

6. Public Facilities and Infrastructure

Master planning for the project has considered all public utility and infrastructure needs associated with the proposed residential development. These will be installed on a phased basis as a logical and orderly extension of areawide master-planned facilities.

The site is within the jurisdiction of EMWD for both water and sewer service and EMWD has indicated an ability to extend service to the project.

The site is under the jurisdiction of the Riverside County Flood Control Division (RCFCD) and though included within the Sunnymead Master Drainage Plan area, no master plan facilities are proposed for the site. Flood control facilities are being designed to meet RCFCD standards.

7. Phasing

The project will be phased in response to market demands according to a logical and orderly extension of roadways and infrastructure. Development will begin in the southeast corner of the site. Hidden Springs will be phased independently of Specific Plan #168. It is anticipated that the entire project will build out over a period of seven years.

B. SUMMARY OF ENVIRONMENTAL SETTING IMPACTS AND MITIGATIONS

1. Landform/Topography

Existing Conditions

The 483-acre project site is in the western portion of the Pigeon Pass Valley. Elevated rugged northwestern portions of the property expose slopes composed of granitic rock and boulders of the Box Springs Mountains. The site is characterized by flat plateaus alternating with gentle valleys that were created (over a period of years) by storm runoff. On-site elevations range from 1735' along Pigeon Pass Road to 2300'+ in the steep hills in the northwestern part of the parcel.

Impacts

Grading for the project will involve cut and fill operations which will somewhat alter existing landform, though the site plan has been designed to respond to the valley/plateau configuration of the site. The preservation of 70.2 acres of the Box Springs Mountains in the northwestern portion of the site will minimize the need for extensive grading. Ground surfaces which are temporarily exposed during grading may be eroded. No grading constraints are foreseen.

Mitigations

All grading will be performed in accordance with Riverside County Grading Policies. Measures to reduce soil erosion during construction should be implemented. Landscaping all cut and fill slopes will protect the slopes from erosion and minimize the visual impacts of grading operations. The preservation of 70.2 acres of hillsides as open space will minimize landform alteration.

2. Geology, Seismicity, Soils Agriculture

Existing Conditions

The site lies near the northeast corner of the Perris Block, an elongate northwesterly trending mass of mesozoic granitic rock. The Perris Block has undergone vertical land movement of several thousand feet in response to movement on the San Jacinto and Elsinore Fault Zones. The site is governed seismically be the active San Jacinto Fault Zone located approximately 1.3 miles northeast of the site. The northwest corner of the site exhibits steep rugged outcrops of granitic bedrock. The remainder of the site consists of a valley covered by varying thickness of alluvium. Approximately 200 acres of the 483 acre site are classified as "Farmlands of Local Importance" by the Countywide Agricultural Resources Map. Approximately 134 acres of the site are in dry land agricultural production, primarily barley.

Impacts

Development of the site appears geotechnically feasible. All earth materials, except large size rock and boulders, are expected to be suitable for fill. Moderate to severe ground shaking should be anticipated during the life of the structures. Liquefaction and seismically induced settlement are not expected, provided construction is not proposed

in areas of main drainage courses. Project implementation will contribute to the decline of agricultural land in Riverside County, including 134 acres currently in barley production as well as lands classified as "Farmlands of Local Importance". However, the high cost of obtaining irrigation water significantly restricts the viability of agricultural production.

Mitigations

Cut slopes in alluvium should be no more than 30 feet in height. All cut slopes should be inspected for adverse conditions during grading by a qualified engineering geologist. Stability analyses should be performed for fill slopes higher than 30'. The effects of seismic ground shaking can be adequately mitigated by conformance with the UBC and County Ordinances.

3. Hydrology, Flooding and Drainage

Existing Conditions

A major drainage course and associated 100-year floodplain cross the project site in a southeasterly direction. This drainage system comes to a confluence further south on the Sunnymead Ranch (formerly North Country Specific Plan). It is estimated that when the 483 acre site is developed, 2,600 cfs will exit through the major drainage course in a 100-year storm. A Master Drainage Plan has been approved for the Sunnymead Ranch to the southeast which proposes a system of three recreational lakes which will also function as a flood control facility. It will be constructed to retain and regulate discharge of the 100-year storm flow and will improve the situation at Pigeon Pass Reservoir by retaining some of the 100-year storm prior to it reaching downstream facilities. The southern 279 acres of the Hidden Springs site were part of the original North Country Specific Plan and its flows, therefore, were planned for in the design of the flood control systems of North Country. Depth to groundwater is estimated at 15-18 feet in localized areas in the drainage courses. Liquefaction may therefore be a potential problem in drainage courses but is not expected to be constraining elsewhere on site.

Impacts

A Master Drainage Plan will be implemented accommodating both on-site and upstream surface flows. The 100-year storm flows will be conveyed through

retention of the existing natural drainage channels and will be discharged into the recreational lake/storm drain system of adjacent Sunnymead Ranch. The volume and peak flow of surface runoff generated on-site will increase as a result of the creation of impervious surfaces, such as roadways, driveways, parking lots and other urban uses. Run-off entering the storm drain system will contain pollutants typical of urban use. Groundwater recharge may be somewhat reduced by project development.

Mitigations

The proposed Master Drainage Plan will mitigate all hydrological impacts of project development. A large portion of the natural water courses throughout the development will be left natural with culvert pipe crossings at streets. All facilities will be constructed in accordance with the standards of the Riverside County Flood Control District. Erosion control devices will be utilized in hillside development areas to mitigate the effect of increased runoff at points of discharge. Flood Control District fees will be assessed within the boundaries of adopted Area Drainage Plans.

4. Noise

Existing Conditions

Due to the site's present agricultural and open space uses, no noise sources exist on site. No off-site noise from March Air Force Base, Interstate Highway 215 or Highway 60 affects the site. Traffic generated by future development of Sunnymead Ranch (North Country) will not exceed County noise standards along Pigeon Pass Road.

Impacts

Short-term noise from construction activities may temporarily impact areas on the project site and in proximity to the project site. Noise related to future daily traffic volumes and general urban activities on the project site will increase local acoustical levels, affecting the project site and surrounding areas. Noise levels will increase along the southerly extension of Pigeon Pass Road with noise levels increasing as Pigeon Pass Road approaches State Route 60.

Mitigations

Construction activities should be limited, especially during later phases of development, to maintain quiet during evening hours and weekends. Construction equipment should be equipped with effective muffling devices. In residential areas which lie within the 65 CNEL zone due to traffic noise, noise barriers will be required. Typical barriers such as an earthen berm or non-porous wall can result in significant and adequate noise reduction if interposed between source and receiver. The Noise-Land Use Standards as set forth by the Environmental Hazards and Resources Element of the Comprehensive General Plan will be met by the Hidden Springs project, including attainment of 45 dBA and 65 dBA for interior and exterior noise levels respectively.

5. Biology

Existing Conditions

Four biotic communities exist on-site: 1) Coastal Sage Scrub, 2) Rural/Agriculture, 3) Introduced Grassland and 4) Riparian. Native coastal sage scrub is found over the steeper hillsides in the northwestern portion of the project area. In a regional perspective, this is a relatively common biotic community of coastal southern California. However, vegetative production is normally high and large numbers of individuals of each species are usually found. Several species of lizards and snakes are expected. Rodents and other small mammals are also abundant and support several species of large mammalian predators, including coyote, gray fox and bobcat. Many species of birds were observed foraging within the coastal sage scrub. Several raptorial birds were also observed foraging overhead, including red-tailed hawk, marsh hawk, white-tailed kite, turkey vulture and American Kestral. The rural/agricultural community is found over the majority of the site, covering the more level areas. These areas have been extensively disturbed by man and virtually all native vegetation has been removed. Approximately 134 acres of barley is grown, with a variety of ruderals, herbs and some grasses along the disturbed edges of these fields. Several large stands of eucalyptus are also associated with the rural/agricultural community, as are scattered California pepper trees and a small olive grove. Few wildlife species inhabit the agricultural areas, though the stands of eucalyptus and the olive groves are somewhat higher

in wildlife value. These trees serve as roost sites for a number of birds of prey and migratory songbirds. The introduced grassland community is found on slopes of drainages and in areas presently inaccessible to agriculture, but where grazing has occurred in the past. Native perennial grass species of the association are nearly absent on-site, due to its long history of agragrian land use. The on-site riparian association consists of two small riparian woodlands found in the southwest portions of the site. These areas contain intermittent surface water and stands of arroyo willow and several western sycamores. Several shrubby and herabaceous plants also line these drainages. Riparian areas are typically outstanding habitats for songbirds, though due to the small size of these habitats, onsite, they support only small populations of songbirds and rodents. The entire Pigeon Pass Valley was prime habitat for the rare Stephen's kangaroo rat before agricultural activities. The species has been found in the project area, though a recent trapping (PRC Toups, 1982) did not find the species on the North Country Specific Plan site, which contains the southern 279 acres of Griffin at Sunnymead. It is, therefore, concluded that even though a small percentage of the project may be suitable habitat, the species does not occur on-site.

Impacts

Project implementation will result in the direct loss of approximately 407 acres of vegetation and the destruction of less mobile wildlife forms. The majority of vegetation and habitats lost are not significant due to past disturbances associated with agricultural activities. Increased noise, dust, exhaust emissions, and general construction activity will disrupt some wildlife habitats in the immediate project vicinity. Human use in the area will also alter the existing biological habitat. A loss of foraging habitat for migratory populations of birds of prey which are winter visitors to the region will occur, as will a loss of a few acres of habitat potentially suited to the Stephen's Kangaroo Rat. These losses, though not significant in themselves, will contribute on an incremental basis to cumulative impacts occurring in the region, including an overall reduction in ecological integrity of the region.

Mitigations

Preservation of 80.5 acres of coastal sage scrub/ grassland as natural open space and 98.9 as a park and greenbelt paseos is intended to alleviate the significant adverse impacts discussed above. Also, the majority of existing eucalyptus trees are to be retained, which also alleviates the impacts discussed above. Large drainage areas will be preserved as part of a 98.9-acre internal open space, a trail and park system.

6. Cultural, Historical Resources

Existing Conditions

One site has been previously recorded on the southern 279 acres of the project site and is described as a recent, historic adobe structure. Three other previously recorded sites lie within one half mile of the subject parcel and are described as bedrock food processing sites. Four new archaeological sites were identified for the northernmost 204 acres. Three of these sites consist of bedrock grinding slicks, while the final site consists of an exotic fragment of fractured quartz in an eastern facing rock shelter.

Impacts

Project implementation will result in either direct or indirect impacts to all four newly-recorded archaeological sites as well as to the adobe structure.

Mitigations

Mitigation of bedrock grinding sites would consist of formal recordation of the sites, which was accomplished by this archaeological assessment. Subsurface investigation of the site containing an exotic fragment of fractured quartz in the rock shelter is recommended.

7. Climate and Air Quality

Existing Conditions

The project site lies within the South Coast Air Basin, which encompasses about 8,630 square miles in Southern California. The climate of the basin is classified as Mediterranean. Temperatures at nearby March Air Force Base average 63 degrees annually. Average rainfall amounts to 8.9 inches per year. The project site lies within the

Riverside County Air Pollution Control District, with the nearest monitoring station located at Perris. At present, oxidant is the most serious problem in the project area, exceeding the State standard 140 days during 1982. Total Suspended Particulates (TSP) also continue to be a major problem in the South Coast Air Basin, with Riverside County violating the State standard on 67% of the days sampled, the highest rate in the basin.

Impacts

Air Quality in the project area will be temporarily degraded during construction activity, and the quality of the regional air cell will be incrementally degraded by pollutants from increased traffic and energy consumption. At project build-out an estimated 163,500 total vehicle miles per day will result from project implementation. This will create 3,590 lbs/day of carbon monoxide, 587 lbs/day of nitrogen oxide, 84 lbs/day of sulfur dioxide,115 lbs/day of particulates, 345 lbs/day of total hydrocarbons and 295 lbs/day of non-methane hydrocarbons. As a result of energy demands, natural gas and electricity will be consumed. Combined emissions resulting from this demand will be as follows: 318 lbs/month of carbon monoxide, 2,102 lbs/month of nitrogen oxide, 921 lbs/month of sulfur oxide, 120 lbs/month of particulates, and 160 lbs/month of hydrocarbons.

Mitigations

The quantity of particulate matter emitted during the grading and construction phase of the project may be reduced through watering graded surfaces and planting groundcover as dust palliatives. Modes of transportation other than the automobile should be encouraged as a strategy in reducing pollutants from mobile sources. The proposed network of bicycle routes and pedestrian trails providing access to residential and recreational areas should assist to reduce residents' reliance on the automobile. These trails will also provide access to the commercial and recreational facilities at the adjacent North Country Specific Plan. The design of efficient and direct traffic flow patterns on the project site can help reduce the quantity of air pollutants generated by minimizing the places in the roadway system where vehicles would be idling unnecessarily. Reduction of stationary source air pollution emissions may be achieved by incorporating energy-saving devices and additional insulation into the proposed homes.

8. Circulation and Traffic

Existing Conditions

The following roadways provide access to the project area: Pigeon Pass Road (2-lane north-south, designated as undivided secondary roadway); Ironwood Avenue (2-lane east-west, paralleling State Route 60, designated as undivided secondary roadway); State Route 60 (4 lane east-west freeway with full interchange at Pigeon Pass Road - Frederick Street). All existing roadways in the project vicinity are operative within Level of Service (LOS) C and all intersections operate at LOS A for existing peak hour conditions. A traffic signal is warranted and is being designed by the County at the Frederick Street and Sunnymead Blvd./Eastbound 60 off-ramp.

Impacts

The Hidden Springs Specific Plan will implement the Riverside County Master Plan of Streets and Highways on-site. An on-site bicycle and pedestrian trail system will also be constructed. The project will generate an estimated 14,860 vehicle trips and 163,500 vehicle miles per day. Project traffic plus existing traffic will cause all affected roadways to operate within Level of Service C. All intersections in the project vicinity would operate at LOS A. Project traffic would warrant a traffic signal at the site's most southerly access point and at the Pigeon Pass Road the westbound State Route 60. Project traffic plus traffic from other proposed developments plus 7.3% annual growth rate through 1994 would result in that portion of Pigeon Pass Road lying between Ironwood and Sunnymead Blvd. operating above LOS C, but within LOS E capacity.

Mitigations

Consideration should be given to amending the Circulation Element to upgrade Pigeon Pass Road from a secondary to a major roadway. If it must remain a secondary, then restriping would be needed, which would eliminate parking in the vicinity of the intersection. Traffic signals should be installed when warranted at impacted intersection. In addition, the Traffic Engineer has recommended guidelines for development of an adequate on-site roadway circulation system. The

County of Riverside should ensure the orderly implementation of their Master Plan of Highways off-site. Pedestrian and bicycle trail systems are proposed, providing connections to Sunnymead Ranch to the east and Box Springs Park to the west.

9. Public Facilities and Services

Existing Conditions

The project lies within the service area of the Eastern Municipal Water District for water and sewer service. There are no sewer facilities on-site. Sewage would be treated at the Sunnymead Regional Water Reclamation Facility , which has an ultimate capacity of 20 MGD which would serve 200,000 - 250,000 persons. Solid Wastes from the project area are taken to the Riverside County Badlands Disposal site which has an anticipated lifespan to the year 2018. In regards to parks and recreation facilities, the Riverside County Public Facilities and Services Element sets a standard for regional parks of one developed acre of park and 25 acres of natural acreage per 1,000 population. Fire protection Services to all of Riverside County are provided under contract from the California Department of Forestry. Two fire stations presently serve the project area. Police protection services are provided by the Riverside County Sheriff Department-Riverside Station. It is approximately 9 miles from the project site, with an anticipated response time of 30 minutes. Medical and Emergency Services are provided to the area by five regional hospitals. Goodhew Ambulance Service maintains one ambulance unit on Sunnymead Blvd. adjacent to the County Fire Station. Southern California Edison provides electrical service to the project area. Southern California Gas Co. provides natural gas to the project area. The project site lies within the boundaries of the Moreno Valley Unified School District.

Impacts

Water, sewer and storm drain systems will be constructed on-site. Gas and electricity lines will also be extended to serve the site. The Eastern Municipal Water District has indicated their ability to provide water and sewer service to the site. Based on a projected population of 3,490 persons average flow water demand for the residential element of the project will be approximately .70 million gallons per day, a 3.8% increase to the District's present level of residential demand. An

estimated .35 million gallons per day of sewage will be generated, a 9.3% increase to current levels. However, expansion of the Sunnymead WRF will insure adequate treatment capacity. An estimated 8.7 tons of solid waste per day would be generated, increasing the amount of solid waste transported to the Badlands site and significantly shortening its lifespan. In terms of parks and recreation, the project provides a 30.0-acre wooded park, 5 miles of pedestrian trails including potential connections to Box Springs Regional Park and the adjacent Sunnymead Ranch. These facilities will be maintained through a Homeowner's Association. Implementation of the Hidden Springs will generate 866 students and proposes a 6.8-acre elementary school site, which will also accommodate students from Sunnymead Ranch. In order to provide the recommended level of medical-emergency services, approximately 14 beds would be required to serve the project population. Ultimately, additional medical facilities will be required to serve this and other proposed developments in the project area. Project implementation will require an estimated 7,899,000 Kwh of electricity per year and 9,017,700 cubic feet of natural gas to meet project energy needs. Both Southern California Edison Co. and Southern California Gas Co. have indicated their ability to serve the project.

Mitigations

As the EMWD has indicated their ability to provide water and sewer service to the project, no mitigations are needed. Water and sewer district annexation fees, per unit fees for capacity in the sewage treatment plant, and per unit water service connection fees will prevent any negative financial impacts to the District. The project applicant should study the possibility of including trash compactors as a standard feature in the new homes as well as the feasibility of installing recycling bins on the site for residents' use and convenience to reduce solid waste generation. Because of the extensive parks and recreation and open space facilities, no further mitigations are planned. The project proponent will continue working with the school district to insure adequate facilities are provided. Payment of District development fees will help mitigate financial impacts. The project applicant will work with the County of Riverside Fire Department in order to insure the adequacy of the location and size of the presently proposed fire station sites. A fee of $600 per unit is assessed by the "Public Facilities Plan for the Moreno Valley". A portion of this feewill be allo-

cated to the Fire Department to cover fee costs of constructing the stations. A number of measures to reduce the potential for fire occurring have been incorporated into the project design. The applicant will also cooperate with the Sheriff's Department to insure that adequate police protection is provided. A number of natural gas and electricity conserving techniques have been incorporated into the project design , as described in the Specific Plan.

10. Aesthetics, Visual Analysis

Existing Conditions

The 483-acre Hidden Springs site is presently undeveloped open space supporting 134 acres of barley production. It is situated in the western portion of Pigeon Pass Valley, between Pigeon Pass Road and the easterly side of Box Springs Mountain. Within the rugged northwestern corner of the site are exposed slopes composed of granitic rock and boulders. A north-south arroyo traverses the site. Disturbed grassland vegetation, coastal sage scrub, significant stands of eucalyptus, and 2 small stands of riparian vegetation are found on-site.

Impacts

Implementation of the proposed Specific Plan will permanently alter the nature and appearance of the site. A visual transition will occur, from the rural ambience offered by open space areas and agricultural uses to residential and recreation. A significant visual component of the project is the 179 acre comprehensive open space and trail system which preserves much of the significant natural vegetative communities on site. Grading will respond to the valley/plateau landform of the site. In many areas adjacent to the paseo greenbelts, manufactured slopes will be contoured so that they conform to the natural slope of the land. The overall design concepts allowed by the utilization of this large scale Specific Plan are intended to mitigate aesthetic and visual impacts.

11. Energy

Existing Conditions

No significant amount of water, sewer, natural gas or electricity service is currently provided at the site; therefore, the strain upon energy and natural resource is negligible.

Impacts

Development of the project will entail energy consumption during construction. Once constructed and inhabitated, there will be demand for water, sewer, natural gas and electricity service,; thereby increasing demand upon energy resources.

Mitigations

Energy conservation literature is published by utility and service companies and is automatically available to new homeowners upon connection of service. Also, a number of features have been incorporated into the site design which will reduce the demand for energy. These techniques are outlined in the Specific Plan.

12. Existing and Adjacent Land Uses, Regional Considerations

Existing Conditions

The project site is currently undeveloped with 134 acres in barley production. The southern 279 acres of the 483-acre site are within the boundaries of the North Country Specific Plan No. 168, approved in August 1982, which permitted 400 d.u.'s on-site. The remainder of the site is zoned R-A-2-1/2, permitting construction of 82 single family residences. The entire project site is shown as an "Area Not Designated as Open Space" on the County's Open Space and Conservation Map. Surrounding land uses include Box Springs Mountain Park to the south and southwest, low density estate lots (2-1/4 acre minimum lot size) to the north and northeast, and the 1,366-acre Sunnymead Ranch to the southeast. Phase I of the Sunnymead Ranch, consisting of 404 units taking access off of Perris Blvd., is currently under construction. Per the Comprehensive General Plan, the project site falls within the Riverside/Corona/Norco Land Use Planning Area, and is affected by the Edgemont/Sunnymead Planning Area. Within the unincorporated portions of the Riverside/Corona/Norco Land Use Planning Area, 1980 population was 14,300 with 4,800 housing units. 1980 population was 28,800 (9,640 housing units) in the Edgemont/Sunnymead LandUse Planning Area. This area is experiencing tremendous growth as a result of demand pressures from the Los Angeles and Orange Counties for affordable housing.

Impacts

Project implementation would permanently alter the nature of land uses replacing agricultural and open space uses on the site. The existing zoning will be replaced by the Specific Plan, which proposes a higher density land use. The site's designation on the Open Space and Conservation Map will not be impacted by project implementation. The project design places a variety of densities adjacent to the Box Springs Mountain Park, creating visual impacts and potentially increasing unauthorized access which could, in turn, disrupt the natural biotic resources of the park. The Griffin project has been designed to complement the Sunnymead Ranch development to the southeast. Existing low density estates to the north will be adjacent to higher densities than those presently found, potentially affecting their rural lifestyle. As infrastructure is extended to the Griffin site, development pressures in Pigeon Pass Valley will increase. Project implementation will increase the regional housing stock by 1350 units, with a population increase of 3,491 persons. The growth embodied by this project, coupled with other proposed developments, will create an overall change in the semi-rural nature of the region. This change is generally compatible with the growth policies of the County of Riverside.

Mitigations

Development of the project site through a coordinated Specific Plan rather than on an incremental (smaller parcel) basis is considered advantageous and is intended to mitigate potential land use impacts. The site planning has taken adjacent land uses into consideration by placing natural open space, the wooded park, greenbelt paseos, and lowest density residential uses on the western and northern edges of the site. The Specific Plan approach allows provision of a total on-site utility infrastructure system and better coordination in providing public open space and recreational facilities.

SECTION II

Introduction

Project Description

II. INTRODUCTION / PROJECT DESCRIPTION

A. INTRODUCTION TO THE PLAN

1. Scope and Format of Specific Plan/EIR

Although Specific Plans and EIR's are often prepared and distributed as separate documents, the two have been integrated into a single comprehensive document for this project. This will allow the reviewing agencies to achieve a greater level of understanding of the project proposal, its environmental implications and proposed mitigation program.

The standard formats for specific plans and EIR's have been merged together and organized in the following manner to reduce repetitive discussion as much as possible:

* Section I: Executive Summary - outlines not only the key aspects of the project but also provides a summary of the environmental setting, impacts and mitigations.

* Section II: Introduction/Project Description - provides an introduction to the methodology of the plan and gives a detailed project and setting description.

* Section III: General Plan Review/Environmental Setting, Impacts and Mitigations - provides both an analysis of the relationship of the project to the Riverside County Comprehensive

General Plan as well as a detailed description of the environmental setting, impacts and mitigations.

* Section IV: Specific Development Plan - defines the proposed development for Hidden Springs and serves as a detailed project description for the EIR. This section is broken down into the individual logical components which make up the Master Plan (land use plan, circulation plan, public facilities plan, recreation and open space plan, etc.)

* Section V: Environmental Summary - provides a summarization of the environmental conclusions relative to the project including such topics as cumulative impacts, unavoidable impacts, alternatives to the project, growth inducement, etc.

* Section VI: Technical Appendices - includes detailed background and technical information and analysis that was used as the basis for the Specific Plan and the environmental analysis.

2. Relationship to the Sunnymead Ranch (North Country) Specific Plan

279 acres of this 483-acre site is a part of Sunnymead Ranch (Specific Plan #168-formerly called North Country-approved in August 1982). This Specific Plan /EIR covers the entire 483 acres and will replace Specific Plan #168 on the 279 acres. At the time that they approve this Specific Plan /EIR, the County will rescind Specific Plan #168 on the 279 acre portion of Sunnymead Ranch.

3. Environmental Review

This Specific Plan/EIR has been prepared in accordance with the provisions of the Riverside County Land Use Ordinance No 348 and Section 65450 et. seq. of the California Government Code relating to Specific Plans. Because this document also serves as an EIR, it is being prepared according to Section 712 of the Rules of Riverside County implementing the California Environmental Quality Act (Section 15069-8 of the State guidelines).

As a Program EIR, this document will address issues related to the ultimate development of the project site based on the most definitive project data available. At each of the subsequent discretionary levels of project review, this program EIR will serve as the master environmental document. As discussed under "4. Supporting Documents and Cases" below, Tentative Tract Maps and Zone Changes are being submitted concurrently with the Specific Plan/EIR. This EIR is being prepared in sufficient detail to cover both of these supporting submittals. Any specific subsequent approvals requested will be examined in light of the Program EIR to determine whether additional or more-detailed environmental analysis is necessary.

. If it is determined that the Program EIR adequately addressed environmental impacts associated with the proposed activity, no new environmental documentation would be required.

- If a proposed project could potentially have a significant impact on the environment which was not addressed in the Program EIR, but the potential impact will be effectively mitigated, a Negative Declaration can be prepared.

- In the case where specific issues associated with an activity were not adequately addressed in the Program EIR, but only minor additions or changes are necessary to make the EIR adequate, a supplement/addendum to the EIR need contain only the information necessary to make the Program EIR adequate for the proposed project.

- Further environmental review at more specific levels of project implementation may reveal additional mitigation measures which will be incorporated into project phases as they are implemented.

These options are in accordance with the provisions of the California Environmental Quality Act and are encouraged by the State, to be utilized in avoiding duplicative reconsideration of basic policy considerations.

Persons reviewing this document should keep in mind that material provided herein is, under State law, informational in nature. It is intended to enable appropriate public agencies to evaluate environmental effects associated with the proposed project, the measures to reduce the magnitude of any adverse effects and to consider alternatives to the project as proposed. These public agencies remain obligated to balance the possible adverse effects against other public objectives, including

economic and social factors, in determining whether the project is acceptable and approved for implementation.

4. Supporting Documents and Cases

As explained above, approval of this Specific Plan/EIR will result in certification of a program Environmental Impact Report for the entire 483 acre project.

Tentative Tract Maps are being submitted for the property in conjunction with this Specific Plan/EIR. Change of Zone applications are also being filed with Tentative Tract Maps.

Because the above-mentioned Tentative Tract Maps and zone change requests are being submitted concurrently with the Specific Plan/EIR, the EIR portions of the document have been prepared in sufficient detail to cover not only the Specific Plan but also the Tentative Tract Maps and zone changes.

Additional, more detailed, environmental impact information may be required in conjunction with future submittals.

B. PROJECT DESCRIPTION

1. Type of Project

Hidden Springs is primarily residential in nature, an extension of existing and planned development occurring in the Moreno Valley to the south and east. Specific uses proposed include 1350 single

family residential units, natural open space, developed parkland, trails, and major roads. These land uses are similar to those formerly approved in the Sunnymead Ranch Specific Plan for a portion of the site. Project roads and trails respond to alignments approved in Sunnymead Ranch east of Pigeon Pass Road.

The above uses and the commensurate infrastructure have been designed to be responsive to the market demands of the region, the environmental resources and hazards of the site, and land uses of the surrounding properties. The ecosystematic approach to project design and planning enables a maximum utilization of resources with a minimum impact.

2. Market Objectives

It is the intent that Hidden Springs will be unified in over-all theme but varied in individual character to provide complementary land uses. The specific market objectives are as follows:

- To reflect anticipated market needs and public demand by providing a diversity of housing types.

- To provide detached, high-quality housing to serve entry level buyers.

- To provide "move-up" opportunities for present residents of Sunnymead, the City of Riverside, and surrounding Riverside County communities.

- To create a community identity for the entire project through the control of project design elements such as architecture, landscaping, color, paving, walls, fencing, signage and entry treatments.

- To provide an aesthetic and functional open space system that responds to site conditions in its configuration and that responds to anticipated user demands of potential project residents.

3. Expected Time Frame for Development

The community will be constructed in five phases over a period of seven years. The individual phases have been determined based upon a reasonable sequence of infrastructure development both on and off site. Refer to Section IV-H for a detailed discussion of project phasing.

C. PROJECT SETTING

1. General and Specific Location

The project site is located directly north of the community of Sunnymead in the southeasterly extension of the Pigeon Pass Valley. See Figure II-1, Vicinity Map. It is bordered along the west by the Box Springs Mountains. Pigeon Pass Road forms the site's eastern boundary, while Box Springs Regional Mountain Park forms the southern and a portion of the western boundary. The remainder of Sunnymead Ranch lies east of the site, as shown in Figure II-1.

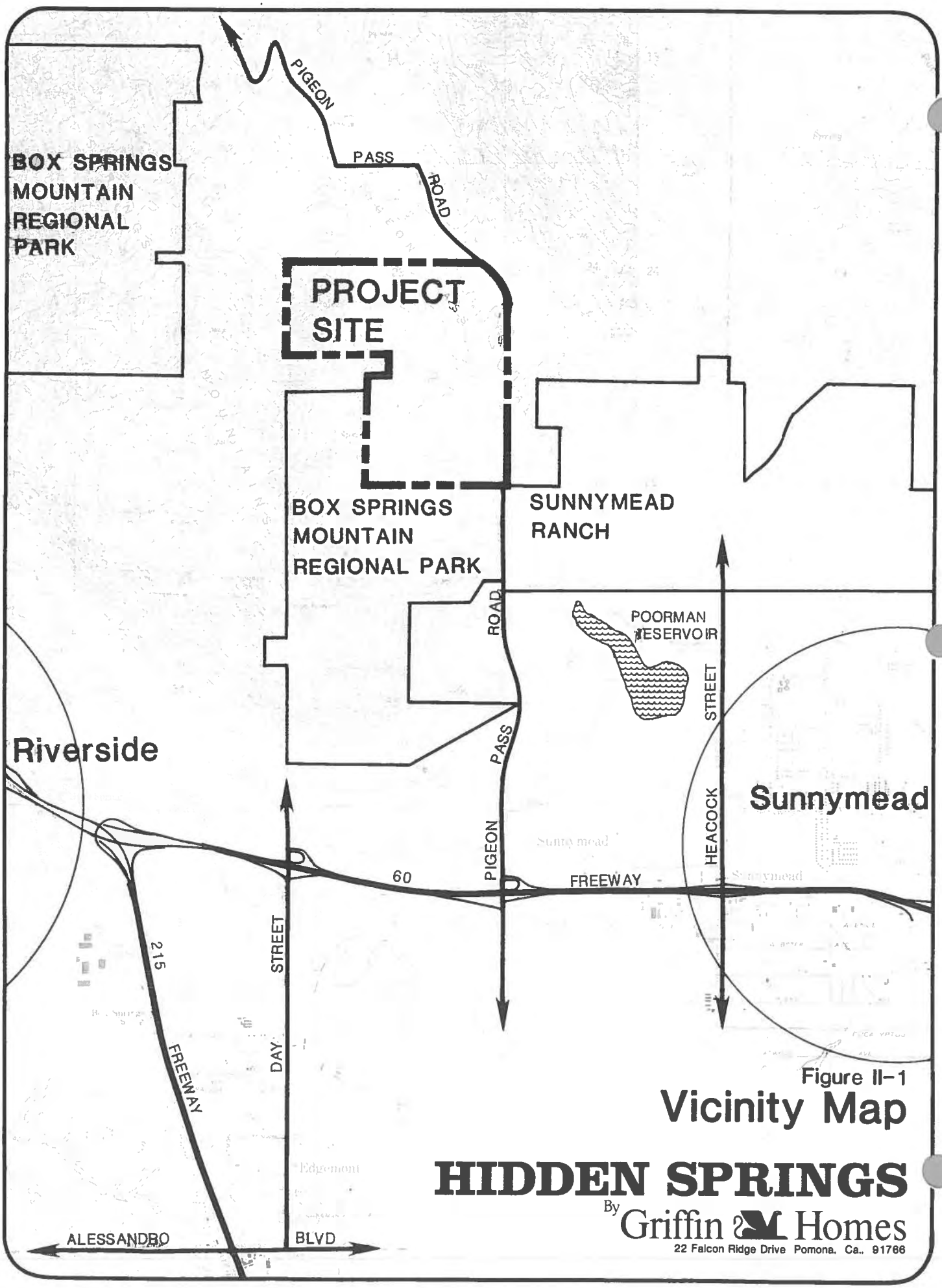

Figure II-1

Vicinity Map

HIDDEN SPRINGS

By Griffin Homes

22 Falcon Ridge Drive Pomona, Ca., 91766

California State Highway 60, a four lane freeway, is located approximately 1-1/2 miles south of the property. Three existing off ramps of Highway 60 will ultimately provide access to the site. These are Pigeon Pass Road, Heacock Street and Perris Boulevard.

2. Community Setting and Characteristics

The property lies at the northerly edge of the community of Sunnymead. This community generally extends from March Air Force Base on the south to the foothills of Reche Peak and from the Box Springs Mountains on the north and west to the community of Moreno on the east.

The Moreno Valley, which includes the communities of Sunnymead, Edgemont, and Moreno, has experienced extremely rapid urban growth resulting in a 245% increase in population between 1950 and 1980. The population of the area is characterized by young middle income families. Older and newer single family residences are interspersed with one another in the flatland areas. New, more expensive single family homes are located to the north against the foothills away from the freeway corridors.

Most of the recent residential development has occurred along the Highway 60 corridor and along Perris Boulevard. Commercial development is occurring along Sunnymead Boulevard, Heacock Street, Perris Boulevard, and Alessandro Boulevard. A regional shopping center has been approved in the southeast corner of the intersection of Highway 60 and Interstate 215. Closer to the site, a fifteen

acre community commercial center has been approved in Sunnymead Ranch less than 1/2 mile east of the site.

3. Area Development Trends

The project site is located adjacent to one of the most rapidly growing areas in Southern California. So far, this expansion has been due mostly to a proliferation of affordable, single family detached homes serving the Riverside, Los Angeles, San Bernardino and Orange County areas. Recent approvals in the County and City of Riverside indicate that growth will continue and that several important area development trends are occurring.

Residential development is expected to continue in the Moreno Valley area as shown in Figure II-2, Area Development Trends. Residential development centered in Sunnymead will expand primarily to the north, east, and south. While this development has been characterized by inexpensive housing that lacked design amenities, recent trends indicate a demand for planned communities that can offer not only affordability but also excellent location, recreational opportunities, and design amenities.

The employment base of the area is expected to increase significantly in the near future. This prediction is based on recent industrial plan approvals in the City of Riverside northwest of March Air Force Base as well as County-initiated industrial rezoning south of March. Such increases in the employment base are expected to sustain demand in all sectors of the housing market.

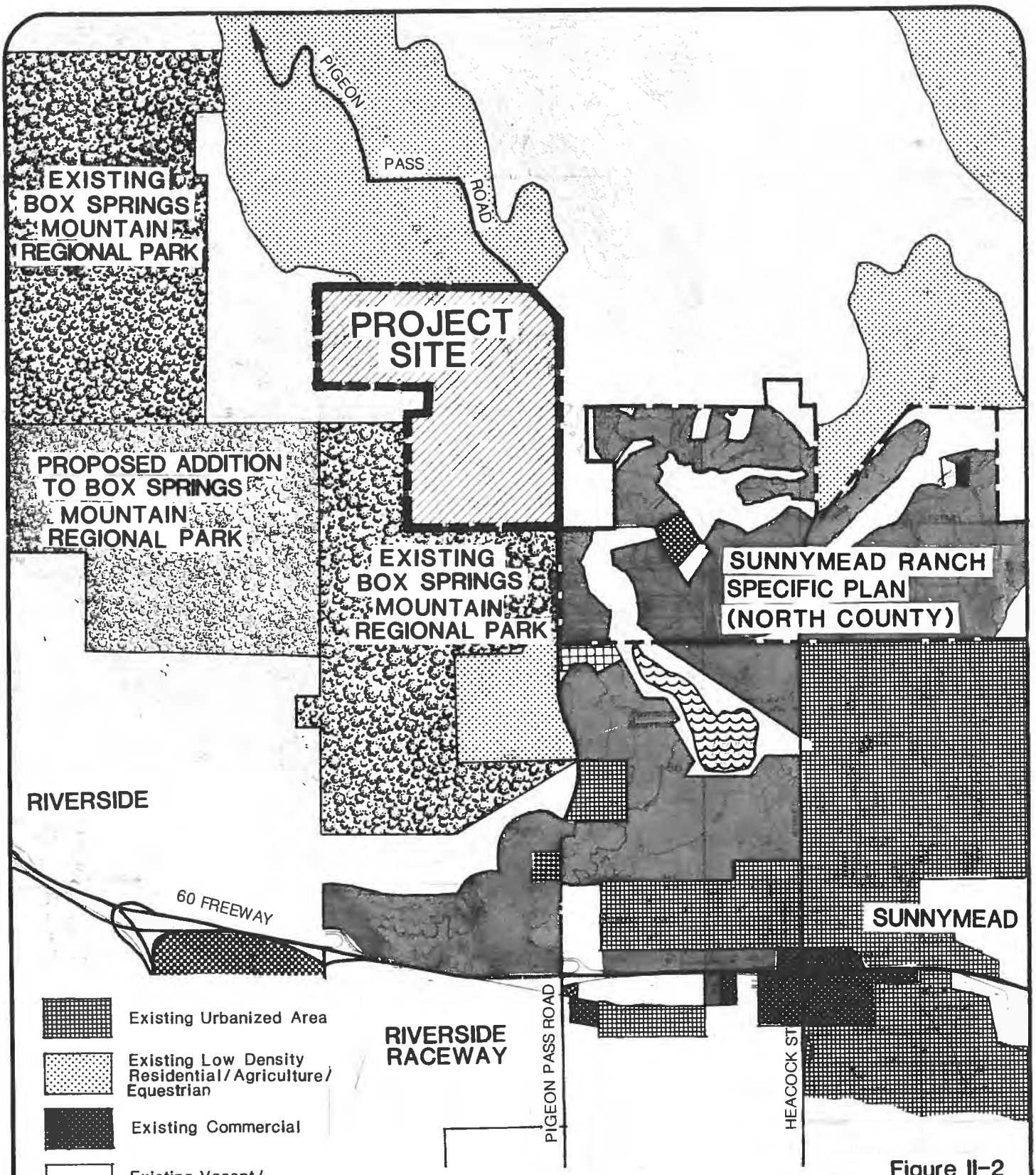

Figure II-2

Area Development Trends

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Even though much of the vacant land in the Moreno Valley area is currently farmed, agriculture is not considered a long-term viable use for the area due mainly to encroaching urbanization and the increasing cost of water.

The area immediately south and west of the site, which is part of the Box Springs Regional Mountain Park, will remain in open space. Areas north of the site will most likely develop at low densities due to the rugged topography. However, the area east of the site is planned for urban development (Sunnymead Ranch Specific Plan) at densities ranging from 1 to 14 du/ac.

4. Incorporation of the Moreno Valley

Incorporation of the Moreno Valley area, including approximately 279 acres of the 483 acre Griffin site was recently approved in a local election. It is the intention of Griffin Homes to request annexation of their remaining 204 acres.

Incorporation of the Moreno Valley could have several impacts on the proposed Specific Plan for Hidden Springs. These impacts and mitigations are discussed fully in Section III.C.13 of this document.

SECTION III

General Plan Review

Environmental Setting
Impacts / Mitigations

PREFACE

SECTION III: GENERAL PLAN REVIEW - ENVIRONMENTAL SETTING IMPACTS AND MITIGATIONS

This section was written and submitted as a part of the draft Environmental Impact Report on June 27, 1985. Since that time, the land use plan for Hidden Springs has undergone several changes as a result of input received during community review and public hearing processes. The approved land use plan dated October 30, 1985 is contained within this Specific Plan/EIR. Sections I, II and IV of this document have been changed to correctly reflect the 10/30/85 Revisions to the plan. Sections III and V of this document remain as originally written and reviewed and therefore represent a "worst-case" analysis of impacts. It should also be noted that the 10/30/85 land use plan contains features that serve to reduce many of the impacts identified, especially those relating to circulation/ traffic, energy conservation, air quality, public facilities and adjacent land uses.

III. GENERAL PLAN REVIEW - ENVIRONMENTAL SETTING, IMPACTS & MITIGATIONS

A. INTRODUCTION

Because this document serves as a combination Specific Plan/EIR, this section, "General Plan Review/Environmental Setting, Impacts and Mitigations", provides not only an analysis of the relationship between the County's General Plan and this Specific Plan but also a description of the site's Environmental Setting, Impacts and Mitigations such as would normally be found in a separate EIR document. The format of this section follows the outline of the County's Comprehensive General Plan as briefly outlined below:

1. Administrative Element - addresses Administrative Programs that pertain to Hidden Springs and the project's relationship to these programs.

2. Land Use Element/Public Facilities and Services Element/Environmental Hazards and Resources Element - Analysis of these three elements is combined here in order to provide a complete environmental setting, impacts, and mitigations section within the context of the General Plan Land Use Determination System as follows:

Step One: Open Space and Conservation Map Review

Step Two: Environmental Hazards and Resources Public Facilities and Services - Complete environmental setting, impacts and mitigations as well as a discussion of applicable General Plan goals.

Step Three: Land Use Planning Area Review - a complete review of the project's relationship to the policies of the Riverside/Corona/Norco Land Use Planning Area, the Edgemont/Sunnymead Land Use Planning Area, and the Moreno Valley Community Policy Area.

Step Four: Land Use Category Review and Land Use Determination

3. Regional Element - Addresses regional policies and programs that pertain to Hidden Springs and the project's relationship to these programs and policies.

4. Housing Element - Discusses applicable housing policies and programs and the project's relationship to these policies and programs.

B. ADMINISTRATIVE ELEMENT

The Hidden Springs Specific Plan responds to both of the Administrative Land Use Policies as listed in the Comprehensive General Plan on page 22. Each policy is discussed below:

1. Land Use Policy - Fiscal Impact Analysis - County policy requires a project having the potential for significant fiscal impacts, to analyze cost and revenue of the required public services and facilities. Such a fiscal impact analysis is being prepared for this project.

2. Land Use Policy - Specific Plan Time Frames - County policy requires a phasing plan to be adopted for each Specific Plan and that each plan be monitored for reasonable progress toward implementation. A phasing program is included as a part of this Specific Plan. The applicant will work closely with the County to assure timely and logical completion of the project according to the phasing plan subject to County approved modifications resulting from updated market and economic data.

C. LAND USE ELEMENT/PUBLIC FACILITIES AND SERVICES ELEMENT ENVIRONMENTAL HAZARDS AND RESOURCES ELEMENT

STEP ONE: OPEN SPACE AND CONSERVATION MAP

A review of the County's Open Space and Conservation Map reveals that the entire 483-acre project site has been shown as an "Area not Designated as Open Space". This means that there are no open space or conservation land uses designated for Hidden Springs and that appropriate land uses for the entire project site will be determined by the remaining steps of the Land Use Determination System.

STEP TWO: ENVIRONMENTAL SETTING, IMPACTS AND MITIGATIONS

1. Landform/Topography

The 483-acre Hidden Springs project site is located in the western portion of Pigeon Pass Valley, between Pigeon Pass Road and the easterly side of Box Springs Mountain. Elevated rugged northwestern portions of the property expose slopes composed of granitic rock and boulders of the Box Springs Mountains. Lower eastern and southern valley portions of the site are covered by varying thicknesses of alluvial soils. Several local outcrops of rock are visible along intermediate areas of the site.

Topographically, the project site is characterized by flat plateaus alternating with gentle valleys that were created (over a period of years) by storm run-off. Slopes are mostly less than 16% except where the plateaus transition to the valley washes. (See Figure III-1, Slope Analysis). The western 1/3 of the north parcel is also extremely steep since it is part of the rugged Box Springs Mountains that border the western edge of the site. Elevations of the flatter portions of the site range from 1735' along Pigeon Pass Road to 1900' along the western edge of the southern parcel. Elevations reach 2300'+ in the steep hills in the western part of the north parcel. (See Figure III-2, Elevation Analysis).

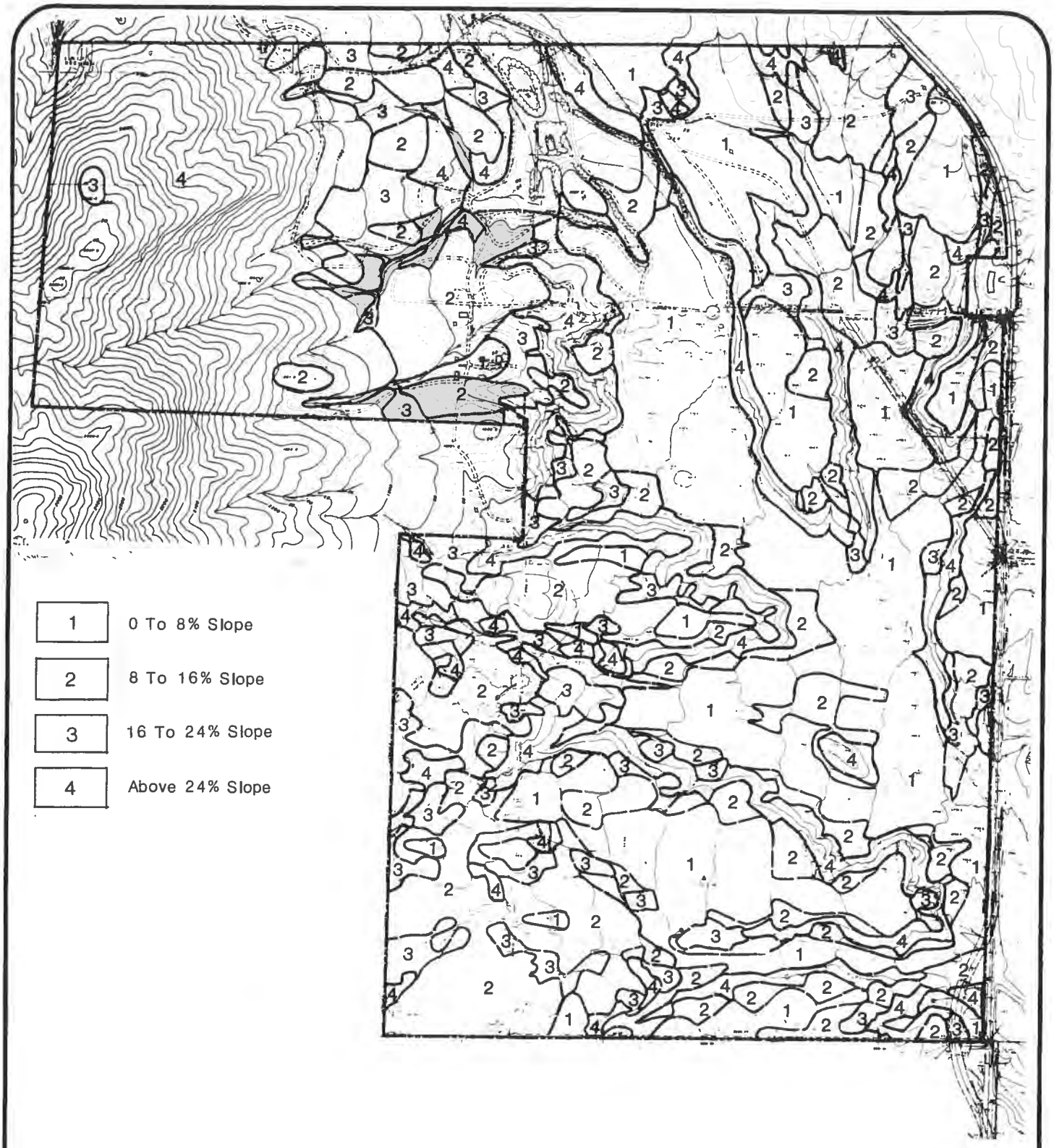

Figure III–1

Slope Analysis

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By Griffin Homes

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north 0 187 375 750

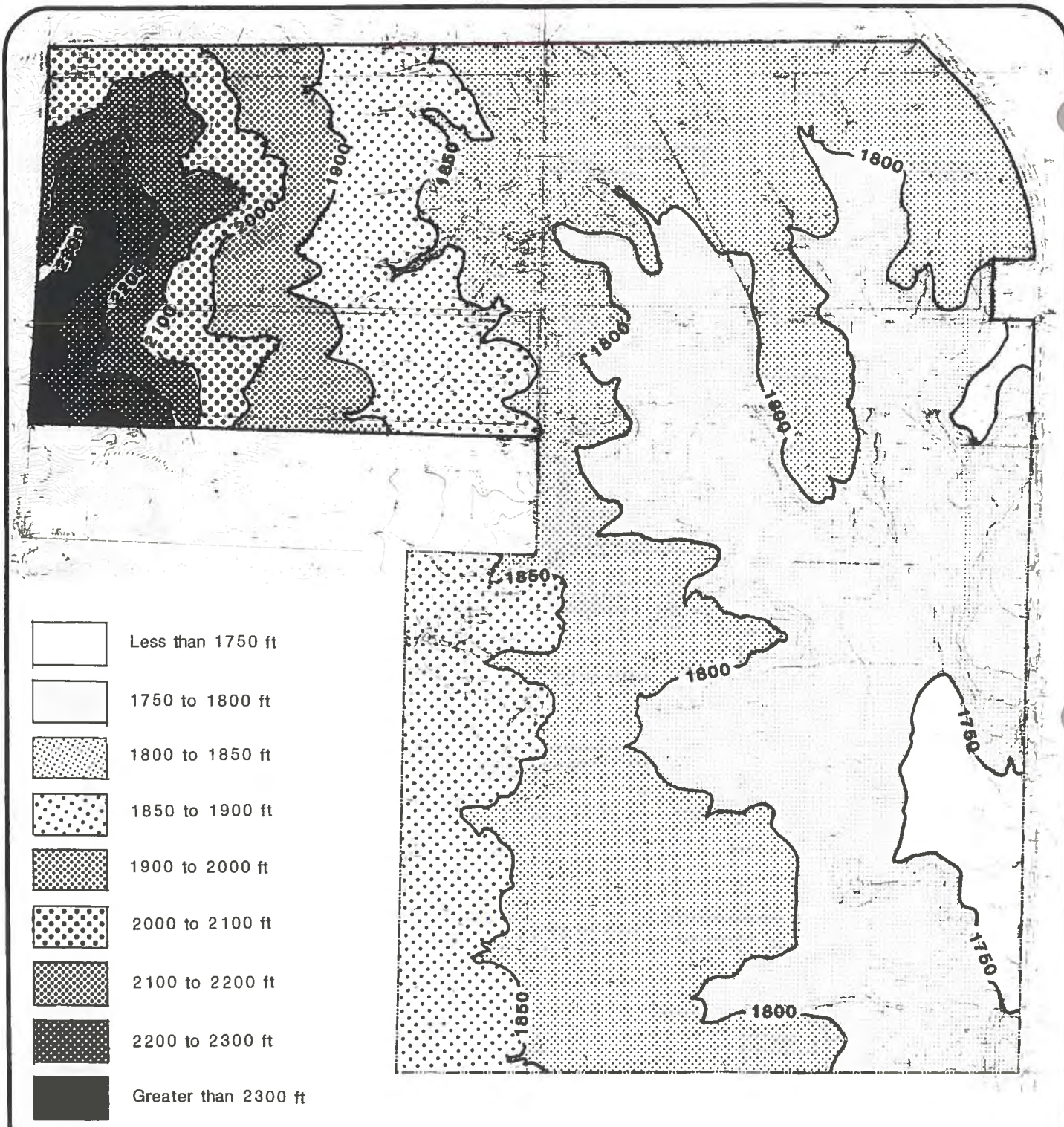

Figure III-2

Elevation Analysis

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north 0 187 375 750

HIDDEN SPRINGS

By Griffin Homes

22 Falcon Ridge Drive Pomona, Ca., 91766

The Environmental Hazards of the Comprehensive General Plan addresses the issue of Slopes and Erosion with the objective of developing hillside areas in a manner which minimizes the hazards from erosion and slope failures and to preserve hillside aesthetics.

Impacts - Landform/Topography

Implementation of the Griffin at Sunnymead Specific Plan will require only moderate alteration of the existing terrain because the overall grading concept responds to the existing landform of the site. Grading will occur on the project site to prepare areas for the construction of buildings and infrastructure. Figure IV-12 Conceptual Grading Plan depicts re-graded contours as required to accommodate the development proposal.

As discussed above, grading activities will be confined to the flatter portions of the site. Within the steeper northwestern area of the site, adjacent to the Box Springs Mountains, 75.5 acres of hills will be retained as natural open space. The dominant features of on-site drainage courses will also be unaffected by grading activities.

Grading activities will expose soils with moderate to high erosion hazards, and wind and water erosion may occur during the grading phase of project construction. Wind erosion is not considered to be substantial.

Site grading has been designed to be a balanced grading operation on a phase by phase basis. Because each phase is balanced, areas outside of

each development phase need not be graded until time of construction. This significantly reduces potential erosion and siltation impacts.

The grading plan for Hidden Springs will implement the Slopes and Erosion Land Use Standards - Hillside Development per the Environmental Hazards and Resources Element of the Comprehensive General Plan. These standards discourage development on slopes in excess of 25%. Also, major projects on ridgelines, canyon edges and hillsides are discouraged. The proposed preservation of 75.5 acres within the Box Springs Mountains protects on-site hillsides, as required by these standards. In addition, no cut of fill slopes in excess of 2:1 are proposed. Where grading ties into adjacent natural terrain, final manufactured slopes will be blended into the existing terrain. These and other Land Use Standards for Slopes and Erosion will be adhered to in the project design.

Mitigations - Landform/Topography

All grading will be performed in accordance with the Riverside County Grading Policies. Measures to reduce soil erosion, such as performing grading operations during dry (summer) months, keeping the soil mantle moist during grading, and providing erosion control facilities should be implemented. Soil erosion potential will be further reduced through implementation of a Master Drainage Plan as part of project development. Landscaping all cut and fill slopes will protect the slopes from erosion and minimize the visual impacts of grading

operations. As previously mentioned, grading will occur in phases, minimizing the areal extent of exposed soils, thereby reducing erosion.

Preservation of steep hillsides in open space areas and natural paseo greenbelts, no cut and fill slopes in excess of 2:1, and contour grading are all features of the project that further mitigate potential grading impacts. (See Section IV.F. of this document for additional details).

2. Geology, Seismicity, Soils & Agriculture

The Environmental Hazards and Resources Element of the Comprehensive General Plan is concerned with public safety from natural hazards, including the issue of seismic safety. Prompted by increasing evidence that a major earthquake in California is inevitable, the California State Legislature has placed responsibilities on local government for identification and evaluation of seismic and geologic hazards and formulation of programs and regulations to reduce risk.

In response to the above concerns, the following discussion of conditions is based upon Leighton and Associates' Preliminary Geotechnical Investigation, Lakeview Estates, Pigeon Pass Valley, March 1984. Their report is included as Section VI.B., Technical Appendices - Preliminary Geology Report.

Geology

The subject property lies near the northeast corner of a structural block (of the earth's crust) known as the Perris Block. The Perris Block is an elongate, northwesterly trending mass of mesozoic granitic rock, approximately 20 by 50 miles in extent bounded by the San Jacinto Fault Zone and the Elsinore Fault Zone on the northeast and southwest sides, respectively. The Santa Ana River is an approximate northwest boundary. Beyond Temecula, the southeast boundary is ill-defined.

The Perris Block has had a complex recent history apparently undergoing relative vertical land movements of several thousand feet, in response to movement on the Elsinore and San Jacinto Fault Zones. These movements of the prehistoric past, in conjunction with the semi-arid climate and the weathering resistance of the granitic rocks, are responsible for the formation and preservation of several ancient generally flat-lying broad terraces at the site.

In general, the northwest corner of the acreage exhibits steep rugged outcrops of granitic bedrock. The site is otherwise cradled in a valley covered locally by topsoils and by varying thicknesses of alluvium which have been dissected by periodic run-off over a long period of time. Thicker alluvial deposits along lower portions of the area fronting Pigeon Pass Road and along southern portions of the property have been carved, leaving broad terraces of elevated older alluvium and wide washes filled with deposits of more recent alluvium.

Alluvial deposits on the remaining portions north-west of the arroyo are generally not nearly as thick. They have been eroded locally by outwash from the east slope of Box Springs Mountain, leaving more pronounced irregular ridges which quite often exhibit bedrock or clusters of boulders exposed on the surface.

As shown on Figure III-3 Geology, the site is composed of three major types of earth materials: younger alluvium; older alluvium; and bedrock-granite (quartz monzonite). These are each discussed below. Small pockets of artificial fill are also present on-site.

a) Younger Alluvium (Qal)

Accumulations of younger alluvial deposits are restricted to drainage courses. These deposits are also composed of loose, poorly consolidated silty sand. In the broad drainage areas, these deposits are more than 20 feet thick. Their maximum overall thickness has not been determined. Relative compaction of these materials was found to vary from 73 to 85 percent. The sand equivalents are fair to good, varying from 23 to 35.

b) Older Alluvium (Qoal)

The alluvial terraces along lower valley portions, and foothill areas farther west, are covered with older alluvium.

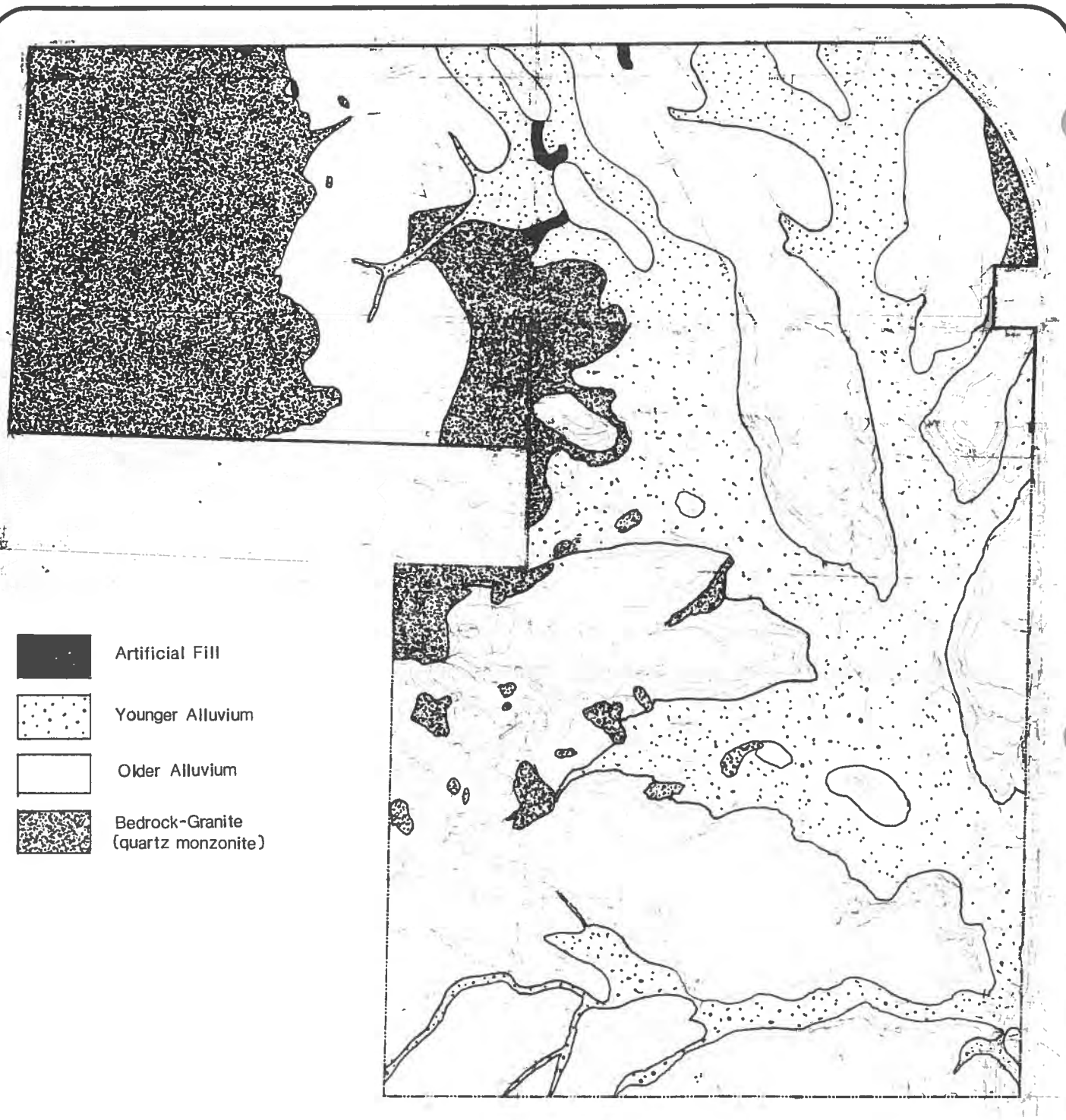

Figure III-3

Geology

HIDDEN SPRINGS

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These deposits are composed of reddish-brown to brown silty sand with some gravel and an occasional cobble. Laboratory testing performed on these materials indicate they are moderately dense with relative compaction less than 85 percent. The sand equivalent is relatively low (SE 13 and 30).

c) Granite Rock

Granitic rock (bedrock) was encountered in five of the 22 backhoe trenches which were excavated. Depths to bedrock ranged from two to 14 feet below the ground surface. Based on this data, the average depth to rock in this area is on the order of approximately seven feet. Similar conditions appear to be present in foothill areas along west-central portions of the site.

The rock consists of quartz monzonite which is slightly weathered, and for the most part, difficult to excavate with a backhoe. This should, however, not preclude ripping and excavating with conventional grading equipment since exposures indicate the rock is moderately fractured and jointed.

Seismicity

Two inactive faults are known to exist in the vicinity. The main fault bounds the Box Springs Mountain on the southwest side, facing Riverside. A second fault extends through the mountain just above the subject property. The main fault is believed the frontal fault along which the Box Springs Mountains were elevated. The second fault, above the site, may have been a hinge point. Both

faults have been the source for springs for many years. Both faults are considered older than Lower Pliocene (5 to 7 million years) and are considered inactive.

The nearest active fault in proximity of the site is the San Jacinto Fault Zone. It is located approximately 2.5 miles northeast of the site, and parallels the proposed development in a northwest-southeast manner. A number of significant earthquakes have occurred on this fault during this century.

Other regional faults of significance which could affect the site in terms of ground shaking are the San Andreas and Elsinore faults. The San Andreas is an active fault and is located approximately 11 miles northeast of the property. The Elsinore fault is considered potentially active and is located approximately 21 miles southwest of the site. However, considering the proximity of the San Jacinto fault, it overshadows the others in terms of the potentials for ground shaking at the proposed development.

Depending on the dominant causative fault with respect to site proximity, and the ground shaking potentials of that fault, the County of Riverside has established ground shaking zones of I to V with increasing intensities related to the dominating fault. The widths of zonations are variable and also consider attenuated equivalent levels of potential ground shaking which might be generated by more distant faults capable of more intense ground shaking.

The zones are further defined by types of underlying earth materials and the intended land use category. The categories of earth materials underlying the site are classified as thin alluvium 10'-200' thick or "D". Land use categories "C", Normal-High Risk and "D", Normal-Low Risk are proposed by the Griffin at Sunnymead project. Land Use Category "C" includes multi-family residential developments of more than 100 units, major commercial centers, office buildings, large hotels, etc. Land Use Category "D" includes single-family residential, multi-family residential developments of less than 100 units, small scale commercial, etc.

The project site is governed seismically by the nearby San Jacinto fault on the northeast. The site ground shaking zonation is divided on-site by the main natural drainage course, with the west side included in Zone IV and the east side in Zone V. Table III-1, Seismic Parameters for land use categories "C" and "D", presents information on the design earthquake standards for the proposed project.

TABLE III-1

SEISMIC PARAMETERS FOR USE CATEGORY C & D

USE CATEGORY C

(Normal-High Risk)

Zone	g	T	t	S
V (D)	1.2	0.1-0.3	15-25	80
IV (D)	0.98	0.1-0.3	15-25	75

USE CATEGORY D
(Normal-Low Risk)

Zone	g	T	t	S
V (D)	0.55	0.1-0.3	10-20	80x0.46
IV (D)	0.57	0.1-0.3	10-20	75x0.58

g = Maximum ground acceleration expressed as a decimal fraction of the acceleration of gravity. For design purposes, repeatable high ground acceleration can be taken as 65% of the maximum ground acceleration.

T = Predominant period of ground shaking in seconds

t = Duration of "strong" shaking in seconds

S = Figure number for applicable response spectra and amplification factor for spectral values

Secondary hazards generally associated with ground shaking are liquefaction, seiches, flooding from dam or levee failure, landsliding, falling rock and seismically induced settlement and ground rupture. Each of these are discussed individually, as follows.

a) Liquefaction

Depending on total depth of ground water, and the lateral extent of perched water or local water table, liquefaction potentials could be present along major drainage courses. Due to the thickness

of overburden along areas covered by older alluvium, the potential in those areas is considered nil at this time.

b) Seiches

Seiches are not possible since no large reservoirs or other bodies of water are present.

c) Flooding

Flooding from dam or levee failure is not possible for similar reasons.

d) Landslides

No landslides have been observed in this vicinity. These types of earth materials are generally not considered to be landslide prone, and landslides are not considered to be a likely occurence.

e) Falling Rock

Falling rock and/or tumbling boulders are possible along the easterly facing slope of Box Springs Mountain. However, no large diameter boulders appear to have "rolled out" onto the site. Considering that this area has been subjected to moderately severe shaking in the past, boulders tumbling onto the site is not considered a potential hazard.

f) Seismically Induced Settlement

Seismically induced settlement in the poorly consolidated alluvial materials is considered possible in those areas with shallow ground water conditions.

g) Ground Rupture

Since no active faults are known to be present at the site, the possibility of ground rupture is considered nil.

Soils

Topsoils on the project site are composed of brown to reddish-brown, loose and porous silty sand with weed and grass roots. The topsoils, some as thick as four feet, commonly contain rodent burrows.

The United States Department of Agriculture publishes the Soil Survey, Western Riverside Area, California. According to their "General Soil Map", there are two soil associations within the boundaries of the Hidden Springs. They are:

Cieneba-Rock Land-Fallbrook Association

This soil type is found on the more mountainous portions of the site. It is described as follows: well-drained and somewhat excessively drained, undulating to steep, very shallow to moderately deep soils that have a surface layer of sandy loam and fine sandy loam on granitic rock.

This association makes up about 25%, or approximately 120 acres, of the project site and 16% of the western Riverside survey area. The soils of this association are found on uplands, mainly on granitic rock islands in the intermediate valleys and on the foothills of the San Jacinto Mountains.

Hanford-Tujunga-Greenfield Association

This soil type is found in the alluvial portions of the site. It is described as follows: very deep, well drained to excessively drained; nearly level to moderately steep soils that have a surface layer of sand to sandy loam; on alluvial fans and flooplains.

This association makes up about 75% or 360 acres of the 483 acre project site and 24% of the overall survey area. Soils of this association are used for irrigated alfalfa, truck crops, citrus, fruit crops, grapes and grain.

Agriculture

The Countywide Agricultural Resources Map of the Riverside County Comprehensive General Plan (March, 1984) identifies several classifications of important agricultural land, as established by State and Federal agencies. Approximately 200 acres of the 483-acre Griffin at Sunnymead project site are classified as "Farmlands of Local Importance". These farmlands, which are within that portion of the site encompassed by the

Pigeon Pass Valley, were selected based on six different classifications. Those relevant to the project site are as follows:

1) Lands with soils that would be classified as "Prime" or "Statewide Important Farmlands" but that lack available irrigation water.

2) Lands planted in 1980 or 1981 to dry land grain crops such as barley, oats and wheat.

The County's Land Use Standard for proposed non-agricultural land uses located in agricultural areas shown on the Countywide Agricultural Resources Map requires review of the proposal in light of the historic and existing agricultural uses of the land, public services available in the area, soil conditions, water distribution system and economic factors.

The project site is not designated for "Agriculture" on the Open Space and Conservation Map of the Riverside County Comprehensive General Plan (March 1984). As discussed, in Section III.C. Step One, the site is designated as an "Area Not Designated as Open Space" on the County's Open Space and Conservation Map. Such designation allows development of the site with urban land uses, if it is determined that public services are available and if environmental constraints can be mitigated.

At the present time, approximately 134 acres of the site are in dry land agricultural production, primarily barley. According to the Agricultural Extension office, productivity in the Sunnymead area is very low for non-irrigated crops due to

long-term farming activities which have depleted the soils of essential nutrients. Optimum crop management practices can do little for site productivity aside from maintenance.

Productivity of barley averages 1 to 1-1/2 tons per acre. For the 134 acres of the site presently being cultivated, an average yield of 134-200 tons results. On a County-wide basis, approximately 14,115 acres of barley were cultivated in 1983, with an average yield of 1.17 tons per acre and a value of $2,156,200 (Mr. Mark Quisenberry Agricultural Biologist, County of Riverside Agricultural Commissioner's Office). Based on these figures, barley production on-site could at optimal productivity, earn gross revenue of approximately $20,500.

Approximately 279 acres of the 483-acre site are within the boundaries of North Country Specific Plan No. 168. This Specific Plan approval in August 1982, proposed that 129 acres of the site now referred to as "Hidden Springs" be devoted to alfalfa production. This was intended to mitigate the loss of 1,100 acres of agricultural land resulting from implementation of the North County Specific Plan.

Impacts - Geology, Seismicity, Soils, Agriculture

Geology, Soils

According to the geotechnical consultants, Leighton & Associates, development of the Griffin at Sunnymead Specific Plan appears geotechnically feasible. (See Section VI.B., Technical Appendices

- Preliminary Geology Report, which is the source of the following information). There are site constraints during project planning and development as detailed below:

- Removal and replacement of older and younger alluvium should be anticipated prior to placing superimposed fills or constructing on natural materials. At this time, it would appear removals of approximately two to three feet will be necessary. The younger alluvial materials have fairly good sand equivalents and can be compacted by heavy watering and, preferably utilizing vibratory equipment, after above indicated removal depths have been achieved.

- All earth materials, except granitic rock and associated boulders, should be excavated with conventional grading equipment. Light ripping may be required locally to loosen materials and expedite loading. The vertical extent of rippability in the underlying granitic rock is not known at this time.

- Based on available data, bedrock generally appears to be shallow along the west-central and northwest portions of the site, above the main drainage courses. At this time, it is estimated that excavation difficulties could be expected for cut grading which exceeds an average of 8± feet.

- All the earth materials, except large size rock and boulders, are expected to be suitable for fills. Large diameter rock and boulders will require special consideration if utilized in fills.

- Based on the geotechnical consultant's knowledge of the site soils conditions, shrinkage during grading is estimated to be 12 percent. Subsidence of 0.2 feet should also be expected for alluvial areas to receive fill.

- On-site earth materials appear to be generally only slightly clayey. Expansion characteristics of on-site soils are expected to be very low to low. This should be verified on a representative areas basis after completion of grading.

Seismicity

Moderate to severe ground shaking should be anticipated during the life of the structures. This should be taken into consideration during planning. Liquefaction and seismically induced settlement are not expected, providing construction is not proposed in areas of the main drainage courses. Placement of fills in these areas will reduce these potentials.

As discussed under "Existing Conditions", the Hidden Springs site is classified as having ground shaking zones IV and V as established by the Environmental Hazards and Resources Element of the Comprehensive General Plan. Implementation of the uses proposed by the project will be subject to the Seismic Safety-Land Use Standards for Liquefaction

Hazards, Groundshaking Zones and Seiche Hazards.

Agriculture

Implementation of the Hidden Springs Specific Plan will contribute to the decline of agricultural land in Riverside County. Overall, however, agricultural land in Riverside County has shifted east and south due to development encroaching on the western part of the County.

More specifically, project development will result in the loss of 134 acres of barley production. Also, lands which are classified as "Farmlands of Local Importance" will be committed to urban uses, precluding any further agricultural production.

The loss of 134 acres of barley production results in a .9% decrease in total Countrywide barley acreage. This loss of acreage will reduce agricultural revenue from these crops by similar percentages.

It should be noted, however, that development of the site, with the inevitable loss of agricultural productivity, is occurring in accordance with the Riverside County Comprehensive General Plan, Open Space and Conservation Map. As discussed above under Step One-Open Space and Conservation Map, the site is designated as "Area Not Designated as Open Space".

Conversion of the site to urban use from its present limited agricultural use is not expected to impact any outside agricultural areas, due to the

location of the site. It is located northwest of the approved North Country Specific Plan, which proposes approximately 3,400 dwelling units and associated commercial, recreational and quasi-public uses. Therefore, any agricultural use on-going on that site has already been slated for development. Also in view of the magnitude of the North Country Specific Plan, it is not anticipated that the Hidden Springs site would create any additional pressure on agricultural uses in Riverside County to convert to urban uses. Property to the north of the site is already developed with large lot estates, ranging in size from one to five acres, and property to the south and east is part of the Box Springs Regional Park. These adjacent areas support no agricultural uses.

Development of the site will preclude the use of 129 of its acres for alfalfa production to mitigate the loss of 1,100 acres resulting from implementation of the North County Specific Plan. The North County Specific Plan No. 168 was approved in August 1982.

Mitigations - Geology, Seismicity, Soils, Agriculture

The geotechnical consultant, Leighton & Associates has recommended the following mitigation measures:

- For planning purposes, cut slopes excavated from bedrock units should be inclined no steeper than 1 horizontal to 1 vertical. Any undercut or potential hazardous boulders along the tops of slopes should be removed.

- For planning purposes, cut slopes graded in older alluvium should be inclined no steeper than 2 horizontal to 1 vertical, nor higher than 30 feet. Stability analysis or flatter inclinations may be required for slopes more than 30 feet in height.

- Fill slopes should be inclined at an inclination of 2 horizontal to 1 vertical, for heights which do not exceed 30 feet. Stability analysis should be performed for higher slopes. Considerations for over-filling, compacting, and trimming should be required to achieve properly compacted slope surfaces.

- The use of shallow continuous footings, supported on compacted fills or firm native soils, should be feasible. A tentative bearing value of 1500 psf is recommended for minimum 12-inches wide footings embedded at least 12-inches below grade.

- Reinforcement of the footings is not anticipated due to generally low expansion potential of the soils. This should be confirmed by expansion testing after grading completion.

- Slabs-on-grade should be minimum 3-1/2 inches thick. A moisture barrier consisting of visqueen, protected with a layer of sand, should be required beneath living areas slabs-on-grade. Normal reinforcement of the slabs with light wire mesh would be advisable.

- Presoaking of the slab subgrade (subsequent to footings construction, and prior to placing visqueen) is not anticipated at this time. As indicated above, this would have to be confirmed by inspection and/or testing of the graded pads.

- Areas exposing bedrock or suspected shallow bedrock should be investigated in more detail to determine excavation characteristics and depth of rippable materials. Seismic refraction surveys should be conducted in those areas to better determine if blasting will be necessary.

- Surveys should also be considered for other areas proposed for deep excavations. This work may be performed during review of preliminary grading plans. For somewhat more definite evaluation of the rippability of bedrock, during this phase, dozer work should be required per our proposal dated February 28, 1984.

- Structures should be designed according to their importance of use category and the seismic hazards which exist where they are to be located.

No agricultural mitigations measures are proposed.

3. Hydrology, Flooding, Drainage

Surface Water

As shown on Figure 111-4, Hydrology, a major natural drainage course and associated 100-year floodplain cross the project site in a southeastern

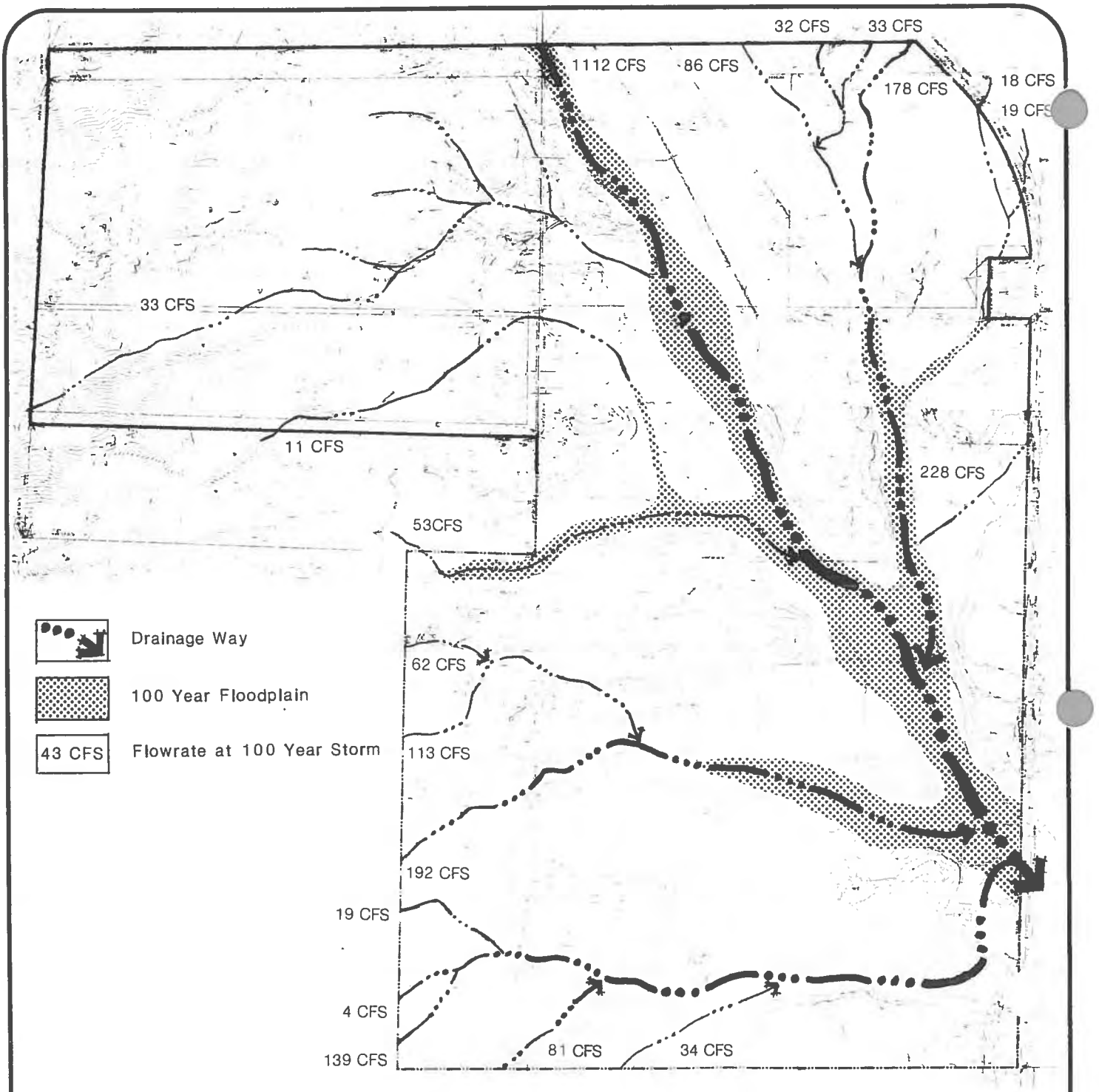

Figure III-4

Hydrology

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direction. Several tributary washes feed this arroyo from the west and east. The drainage systems comes to a confluence further south, on the Sunnymead Ranch, then outlet into the Poorman Reservior. Figure 111-4 Hydrology, shows flowrates in cubic feet per second for a 100 year storm. It is estimated that 2,600 cubic feet per second would exit the project site through the major drainage course in a 100-year storm. (North Country Specific Plan, No. 168; Aug. 82).

The Pigeon Pass or Poorman Reservoir is an earth fill dam built in 1957 and at present has 860 acre-feet of storage volume to top of spillway. The spillway is concrete lined and 120 feet wide at the west. The outlet pipe is 30" in diameter and discharges a peak of 120 cfs in 100-year storm, which overflows into Pigeon Pass Channel which then joins the Sunnymead Storm Channel (Master Drainage Plan for the Sunnymead Area; October 1977).

Though not yet in existence, a Master Drainage Plan has been approved for the Sunnymead Ranch to the southeast. A recreational lake system is planned which will also serve as a flood control measure. The lake system will be comprised of three lined lakes having a concrete bulkhead along the overspill portion of the perimeter. It will be constructed to retain and regulate discharge of the 100-year storm flow and will better the situation at Pigeon Pass Reservoir by retaining some of the 100-year storm run-off before it reaches downstream facilities. The lakes have a combined surface area of 42 acres and a maximum depth of 12 feet. (North County Specific Plan ElR; 1982). Flood Control

Line H-10 will also be constructed in conjunction with development of the Sunnymead Ranch. This line will convey flows off-site to Poorman Reservoir.

It should be noted that the southerly 279 acres of the 483 acres Hidden Springs project were part of the original Sunnymead Ranch development (formerly called North Country; approved in August 1982). The flows entering the Sunnymead Ranch Site from the Griffin project site were, therefore, planned for in the design of the flood control system of the Sunnymead Ranch. The project site lies within the jurisdiction of the Riverside County Flood Control and Conservation District. Drainage conditions and improvements in the project area are based upon the Master Drainage Plan for the Sunnymead Area. The master plans investigate and evaluate the drainage problems of the area and develop drainage plans that consider protection of both existing development and potential future development. This Master Plan shows no existing or proposed improvements on the Griffin project site.

The objective of the Environmental Hazards and Resources Element of the County of Riverside Comprehensive General Plan in regards to flooding is that siting and development standards be implemented to reduce risk and damage from flood hazards. The aforementioned Master Drainage Plans are an element of the Flooding-Programs outlined by this Element.

Groundwater

Groundwater was encountered in the younger alluvial soils in the lower portions of the valley. The water was 15 and 18 feet below the surface. At this time, it is not known whether it is perched on irregular surfaces of underlining bedrock or whether it represents a local groundwater table off site. Groundwater in the form of springs is known to be present along the fault west of and above the proposed development. (Preliminary Geotechnical Investigation, Lakeview Estates, Pigeon Pass Valley, March 1984.)

Impacts

Surface Water

The Hidden Springs Specific Plan proposes to implement a Storm Drain/Flood Control Plan, accommodating both on-site and upstream surface flows. The proposed system is shown on Figure IV-15, Master Drainage Plan.

Development of the project will alter the site's natural drainage characteristics. Grading site surfaces and creating impervious ones will increase runoff generated on-site by 10%-20%. This measured on-site runoff as well as upstream flows from the north, south and west will be conveyed through 80.0 acres of existing major drainage courses, which will be retained as greenbelt paseos in a natural condition. Desilting basins will be provided in this nature drainage course, as needed. No major drainage improvements are proposed, through runoff from developed portions of the site will be

conveyed through streets and underground drainage pipes. This greenbelt/paseo drainage system will discharge onto the adjacent Sunnymead Ranch site where it will be adequately handled by that project's proposed flood control system, then ultimately discharged into the Pigeon Pass Reservoir.

Flows which presently empty onto the project site from the east will be intercepted where they currently cross Pigeon Pass Road and will be conveyed through the site utilizing the on-site drainage system. While it is not expected that drainage flow patterns themselves will be altered significantly, the quantity, velocity and composition of runoff will be altered by grading of the site surfaces, by construction of impervious streets, roofs and parking facilities, and by irrigation of landscaped areas. Also, runoff entering the storm drain system will contain minor amounts of pollutants typical of urban use, including pesticides, fertilizers, oil and rubber residues, detergents, hydrocarbon particles and other debris.

Groundwater

Shallow groundwater conditions (less than 30 feet below the surface) are not known to exist on-site; therefore, no liquefaction impacts are anticipated.

Groundwater recharge may be somewhat reduced by project development, though this effect will to some extent be compensated for the preservation of the existing 80.0 acre drainage course in a natural condition.

Mitigations - Hydrology

Implementation of the Hidden Springs Specific Plan will eliminate the floodplain hazards of the site. Major features of the flood control system are shown on Figure IV-15, Master Drainage Plan. All facilities will be constructed in accordance with the standards of the Riverside County Flood Control District.

The Flood Control District assesses fees for the support of drainage improvements within the boundaries of adopted Area Drainage Plans, which will be applicable to Hidden Springs. These fees will potentially mitigate any financial impacts.

The improvements proposed by the proposed Master Drainage Plan respond to the Flooding-Land Use Standards of the Environmental Hazards and Resources Element of the Comprehensive General Plan through mitigation of the existing floodplain condition and by payment of fees set forth by the Master Drainage Plans. All applicable Flooding - Land Use Standards will be satisfied by the proposed project.

Erosion control devices will be utilized in hillside development areas to mitigate the effect of increased runoff at points of discharge. Devices may include temporary berms, culverts, sandbagging or desilting basins.

4. Noise

The Environmental Hazards and Resources Element of the Country of Riverside Comprehensive General Plan identifies the following principal noise sources within the Edgemont/Sunnymead area:

March Air Force Base
Interstate Highway 215
Highway 60

March Air Force Base is located approximately three miles south of the project site, and its current flight patterns do not impact the project vicinity. Interstate Highway 215 veers south at its terminus with Highway 60. As that terminus is approximately 1.5 miles southwest of the site, noise from these highways does not affect the project area.

The Environmental Hazards and Resources Element of the Comprehensive General Plan contains Land Use standards relative to noise issues, and states that "the following uses shall be considered noise sensitive and shall be discouraged in areas in excess of 65 CNEL (dBA): single and multiple family residential, group homes, hospitals, schools and other learning institutions, and parks and open space lands where quiet is a basis for use". It is also stated that "in areas within close proximity to highways and roads, the road's design standard (average daily trips) shall be used to estimate maximum future noise hazards."

Due to the project site's present open space and agricultural uses no significant noise sources exist on site. Surrounding land uses include Box Springs Mountain Park (and proposed additions) to the south and to the northwest. To the north and northeast are low density residential and agricultural/equestrian uses. To the southeast is the North Country Specific Plan development. Of these surrounding land uses, only the last could potentially generate significant noise levels as a result of traffic associated with the proposed residential, commercial, recreational, open space and public uses. Pigeon Pass Road, which consitutes the eastern boundary of the proposed Hidden Springs, will carry traffic generated by the Sunnymead Ranch development. However, it should be noted that traffic generated by North Country will largely be oriented south, towards Highway 60 rather than north past the Hidden Springs site.

An additional potential noise source in the project area is construction activity associated with phased development of Sunnymead Ranch (formerly North Country). Phase I of this project is presently underway in the eastern portion of that development. Due to the distance between the project site and this initial phase, this construction noise is not significant. However, Phases V, VI, and VII occurring just east of Pigeon Pass Road, may generate sufficient noise to affect the Hidden Springs site.

Impacts - Noise

Construction Noise

Construction noise will occur periodically during development of the project site. Noise levels which can be expected in conjunction with grading activities and other construction processes fall within the range of 81-88 dba, at a distance of 50 feet. Construction noise occurring during the initial phases of the project may disturb residents of the later phases of North Country, depending on the timing of the respective developments. During the later phases of development of Hidden Springs, residential areas on-site may be subject to temporary annoyances from construction activity. No noise impacts are expected outside working hours as construction is predominantly a daytime activity.

Domestic Noise

Significant amounts of "domestic noise" will be generated by the addition of this community of 1350 dwelling units to a currently undeveloped area. Noise will be created by radios, stereos, television, musical instruments, workshop and home improvements tools, domestic animals, air conditioners, etc. These kinds of noise are usually accepted in residential settings, though occasionally they become sources of annoyance and subjects of complaints.

Traffic Noise

The most significant source of noise resulting from implementation of the Hidden Springs Specific Plan will be that associated with automobile traffic. As discussed in Section III.B.8, Circulation, Traffic, Scenic Highways, 14,860 vehicle trips will be generated by the residential and recreational land uses. The greatest concentration of these vehicle trips will be along the southerly extension of Pigeon Pass Road. Preliminary noise contours were developed for this primary traffic route within and in each direction from the site. The calculations are in accordance with methodology developed by the U.S. Department of Transportation Federal Highway Administration. ("FHWA Highway Traffic Noise Prediction Model," Dec. 78.)

The basis for these calculations are average daily traffic data, temporal distribution of traffic, percentage of light and heavy truck (0-2%), vehicle speed (35-45 mph) and roadway width and gradient. The result of the noise calculations are indicated in the Table III-2

Table III-2
Preliminary Noise Contours

Roadway (Location)	Distance in feet from centerline		
	60 CNEL	65 CNEL	70 CNEL
Pigeon Pass Road North of Site	75	45	35
Pigeon Pass Road North of Sunnymead Ranch Parkway	115	60	45
Pigeon Pass Road North of Old Lake	130	65	45
Pigeon Pass Road South of Old Lake	245	125	60
Pigeon Pass Road South of Ironwood Avenue	315	170	85

It should be noted that these contour calculations are based upon assumptions and estimations which may be revised as more detailed project information becomes available. At the Specific Plan level it is impossible to determine exactly how the vehicle trips will be distributed. Upon project implementation, the noise levels will likely be lower than cited in the preceeding table. In addition, these noise contour calculations assume no physical attenuation measures. Project design factors will, however, cause a significant reduction in these ambient noise levels, as is discussed later in this

section. Given implementation of these measures, future interior noise levels will fall within acceptable levels.

Mitigations - Noise

Construction Noise

Construction activities should be limited, especially during the later phases of development, to maintain quiet during evening hours and weekends. In addition, construction equipment should be equipped with effective muffling devices.

Traffic Noise

In residential areas which lie within the 65 CNEL zone due to traffic noise, noise barriers will be required. An earthern berm or non-porous wall can result in significant and adequate noise reduction, if interposed between source and receiver. The barrier should effectively block the line of sight from the noise source. The required height of these barriers is directly dependent upon precise elevation differentials between the source and receiver. As a result, these barriers will be designed at subsequent, more detailed stages of project design. Special construction techniques can be used to to maintain interior noise levels at acceptable standards. Measures such as the use of double-pane windows, additional insulation, weather-stripped doors and windows and baffled vent openings can be incorporated into the building design, if needed.

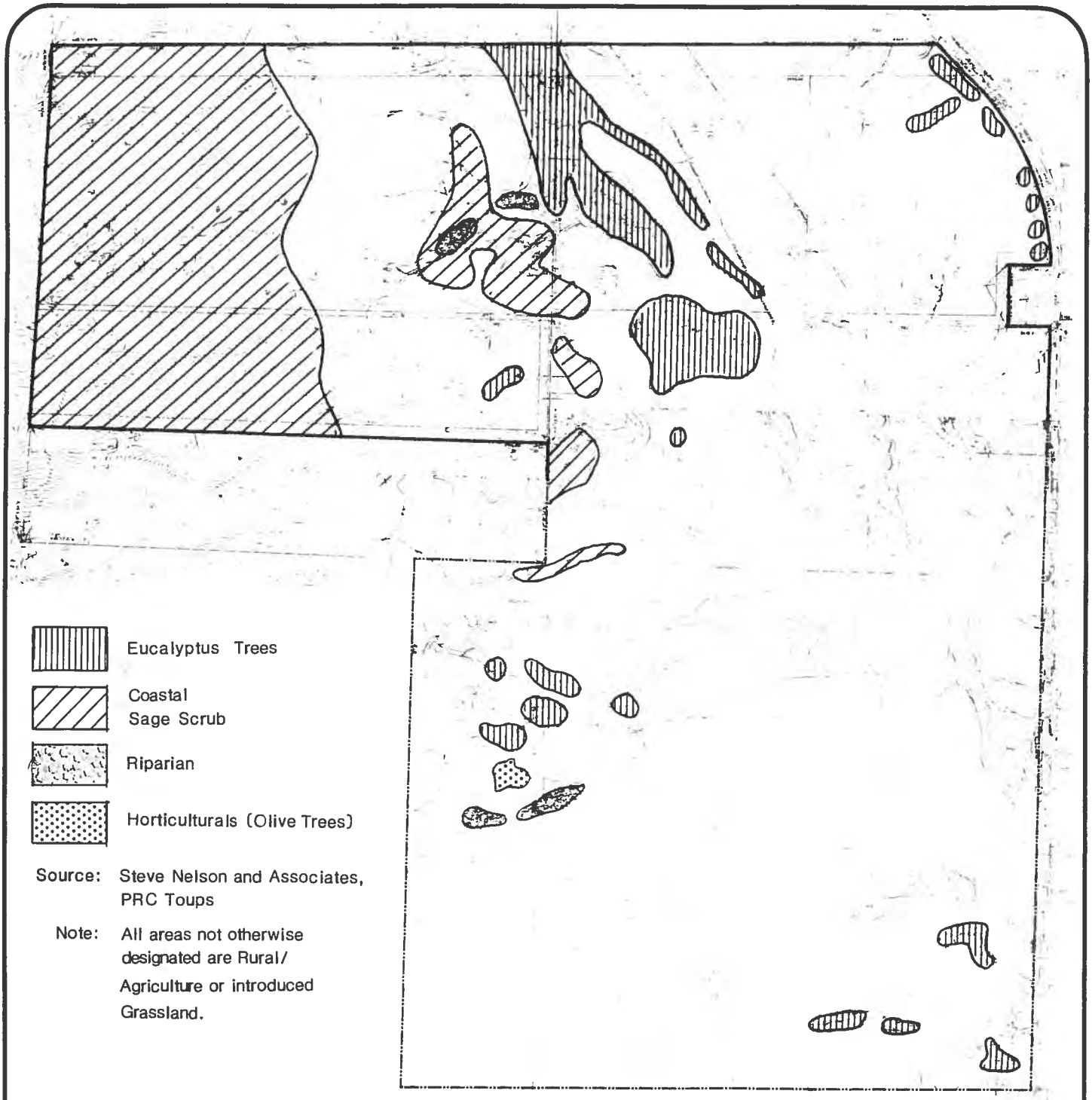
The Noise-Land Use Standards as set forth by the Environmental Hazards and Resources Element of the Comprehensive General Plan will be met by the Hidden Springs project, including attainment of 45 dBA and 65 dBA for interior and exterior noise levels respectively.

5. Biology

The following information summarizes a report entitled "Biological Assessment for Hidden Springs" prepared by Steven G. Nelson & Associates, August 1984. The report is included in its entirety as Section VI.D., Technical Appendices - Biological Assessment.

As no permanent development has yet occurred on the 483-acre Hidden Springs, disturbance to natural resources has been limited to that area associated with agriculture. This biological study began with a review of information sources relating to biological resources of the project site and surrounding area. Additionally, a field survey was performed to verify and refine existing information, while also collecting site specific supplemental data.

Four biotic communities exist on-site: 1) Coastal Sage Scrub, 2) Rural/Agriculture, 3) Introduced Grassland and 4) Riparian. Their distribution is shown on Figure III-5, Biology. As the term implies, biotic communities are predictable assemblages of species which exist within the same physical habitat and have a very close and complex set of interrelationships.



Eucalyptus Trees

Coastal Sage Scrub

Riparian

Horticulturals (Olive Trees)

Source: Steve Nelson and Associates, PRC Toups

Note: All areas not otherwise designated are Rural/ Agriculture or introduced Grassland.

Figure III-5

Biology

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1) Coastal Sage Scrub

Native coastal sage scrub is found over the steeper hillsides on-site, presumably where clearing and agricultural production is not feasible. These areas are primarily found in the extreme northwestern portion of the project area. In regional perspective, this is a relatively common biotic community of coastal southern California. It extends from the south coast ranges near Point Conception in the north to northern Baja California in the south, and extends inland to the vicinity of Cajon and San Gorgonio passes in San Bernardino and Riverside Counties, respectively. Characteristically, coastal sage scrub occupies physical habitats consisting of dry, more or less rocky slopes at elevations generally below 3000 feet in elevation.

Coastal sage scrub is an open shrub vegetation, dominated by shrubs that grow two to five feet high and do not commonly form a closed canopy. On-site the shrub cover is dominated by California sagebrush (Artemisia californica), California buckwheat (Eriogonum fasciculatum), brittlebrush (Encelia farinosa), matchwood (Guitierrezia bracteata), deerweed (Lotus scoparius), and white sage (Salvia apiana). Within hillside ravines and drainageways, lemonade berry (Rhus integrifolia) is also a dominant plant species. In addition, Glandular cudweed (Corethrogyne filaginifolia), Valley cholla (Opuntia parryi) and Western prickly pear (Opuntia occidentalis) are common.

Groundwater is present but sparse. Dominant groundcover species are annual grasses and forbs that have been introduced through grazing and agriculture. On-site these include foxtail chess (Bromus rubens), soft chess (Bromus mollis), slender, wild oats (Avena fatua) and red-stemmed filaree (Erodium cicutarium). Also reported to be found on-site are masses of spring blooming wildflowers, especially on north-facing slopes (PRC Toups, 1982). Among the many kinds are several species of Cryptantha and Plagiobothrys (Popcorn flower), Pectocarya, baby blue eyes, fiddleneck, wild hyacinth, common eucrypta (Eurcrypta chrysanthemifolia), Lotus hamatus, Athysanus pusillus, minors lettuce (Claytonia perfoliata), mariposa (Calachortus sp. not in bloom), Microseris heterocarpa, Trapidocarpum gracile, red maids, owls clover, Lindsley's annual lupine and rattlesnake weed (Daucus pusillus).

On the drier and sunnier southfacing slopes, a somewhat different floral display is evident. Wild four-o'clock (Mirabilis californicus), southern suncups (Oenothera bistorta), chia sage (Salvia columbariae), canterberry bells (Phacelia minor), California plantain (Plantago erecta), fluffweed (Filago californica), dwarf stonecrop (Crassula erecta) blue wool stars (Eriastrum sapphirinum) and peppergrasses (Lepidium lasiocarpum, L. virginicum, var. pubescens) are found.

Other floral variations of note include scattered stands of Chamise (Adenostoma Fasciculatum) and its vegetative association growing in and about the numerous rock outcrop on-site. Chamise is the "indicator" species for chaparral which is a related yet distinct brushland community. It is normally found at higher elevations than coastal sage scrub; however the two communities do overlap considerably throughout Southern California hill and mountain ranges. Because the stands of chemise are relatively small and many other typical chaparral species are absent, it is not identified here as a separate community.

Rock outcroppings of igneous material are found scattered throughout the site. On-site outcrop areas, while containing elements from the adjacent coastal sage scrub areas, support a variety of unique and characteristic species. These include the non-woody shrub, bricklebush (Brikellia californica), suffrutescent or herbaceous plants such as phacelia (Phacelia ramosissima), chaparral nightshade (Solanum xanti), California bee plant (Scrophylaria californica), a pale yellow-flowered sticky monkey flower (Mimulus longiflorus ssp. calycinus), Nuttails snapdragon (Antirrihinum nuttallianum) and California fuchsia (Zauchsneria californica). Wild cucumber vines (Marah macrocarpus) is also of sporadic occurence.

Also prevalent are spreading silvery mats of Lotus neermanii as well as a second, non-flowering matting species, Bigelow spike

moss (Selaginella bigelovii). Two grasses are found only in this association on-site, a purple flowering triple awngrass (Aristida purpurea) and few flowered medic (Melica imperfecta). The tall, tufted giant rye (Elymus condensatus) also grows in moist areas receiving sporadic runoff. Two fern species are also occasionally found. Cotton fern (Notholaena newberry) is rather frequent, sprouting from sheltered crevices. Bird's foot fern (Pellaea mucronata) is uncommon.

Coastal sage scrub supports a moderate diversity of wildlife in comparison to other habitats in southern California. However, vegetative productivity is normally high and large numbers of individuals of each species are usually found. Based on field observations, conditions on-site are believed to follow this pattern. No amphibians were observed and are not expected due to the dry habitat conditions. Several species of lizards and snakes were observed or are expected, including side-blotched lizard, western fence lizard, spiny granite lizard, gopher snake, red diamond rattlesnake and red racer.

In particular, the granite boulder outcrops, with their many crevices and sheltered hiding places are excellent reptile habitats. The banded gecko, western skink and western whiptail are reported in the project vicinity and probably inhabit areas on-site. The area should also be excellent for a variety of

snakes, including California lyre snake, rosy boa, patch-nosed snake and the spotted night-snake.

Rodents and other small mammals are also abundant. The more common species observed and expected are deer mouse, botta pocket gopher, pacific kangaroo rat, audubon cottontail and beechey ground squirrel. These, in turn, support several species of larger mammalian predators, including coyote, gray fox and bobcat. Mule deer are also expected on-site.

Many species of birds were observed using the project area, and others are expected. Mourning dove, scrub jay, common crow, roadrunner, brown towhee, sage sparrow, house finch, western meadowlark, loggerhead shrike, anna's hummingbird, say's phoebe and common bushtit were all observed foraging within the coastal sage scrub. Several raptorial birds were also observed foraging overhead including red-tailed hawk, marsh hawk, white-tailed kite, turkey vulture and American kestrel.

2) Rural/Agriculture

The rural/agricultural community is found over the majority of the site covering the more level areas. These areas have been extensively disturbed by man and virtually all native vegetation has been removed. The most widespread association on the property, covering nearly all accessible portions of the alluvial fan which constitute the bulk of the site, is a monoculture of domestic barley. Approximately

134 acres of barley are presently being cultivated. A few herb species are found in association with the plantings: wild radish, white forget-me-not, Russian thistle, common knotweed, annual bur ragweed, red maids and jointed charlock.

A greater variety of ruderals and other herbs and some grasses are found along the disturbed edges of these fields as along roadsides. Additional species occurring here are summer mustard, London rocket, ripgut brome, red brome, lamb's quarter, pineapple weed, slender wooly eriogonum, red-stemmed filaree, white-stemmed filaree, tall horseweed and others.

Several large stands of eucalyptus are also associated with this community. The stands appear to be made up entirely of red gum (Eucalyptus camaldulensis). Scattered California pepper (Schinus molle) and a small olive (Oleo europea) grove are also found on-site.

In the absence of native habitats, few wildlife species use agricultural areas. Further, due to the frequent disturbances for farming activities, these few species do not establish resident populations. At best, botta pocket gopher and beechy ground squirrel may establish short-lived burrows in agricultural areas. Domestic pigeons, common crow, horned lark, killdeer, vesper sparrow and water pipit, are expected to forage in the open fields.

The stands of eucalyptus and to a limited extent, the olive groves are somewhat higher in value. These areas are expected to serve as nest and roost sites for several birds of prey, including red-tailed hawk, marsh hawk, American kestral, white-tailed kite, ferrogenous hawk, prairie-falcon, barn owl and great horned owl. A number of migratory songbird species will also use the trees as roost and forage habitat during their winter visit to the area.

3) Introduced Grassland

Introduced grassland is found on uncultivated portions of the site, as on the slopes of drainages and in areas presently inaccessible to or otherwise removed from agriculture, but where grazing has occurred in the past. Native perennial grass species of the association are nearly absent on the property, undoubtedly because of its long history of agrarian land use. Dominant among the grasses on-site are ripgut and red brome. Common wild oats (Avena fatua) and slender wild oats (A. barbata) are also present.

4) Riparian

Two small riparian woodlands are found in the southwest portion of the project site. These areas contain intermittent surface water and stands of arroyo willow (Salix lasiolepis) and several western sycamore (Platanus racemosa) trees. Several shrubby and herbaceous plants also line these drinages. Mulefat (Baccharis glutinosa) and elderberry (Sambucus mexicana)

shrubs, shrub-like California sunflower (Hellanthus californicus) and tarragon (Artemisia dracunculus) and giant rye grass clumps line stream areas away from the shade of the willow stands.

Typically, riparian areas are outstanding habitats for songbirds and furbearers. On-site, however, this is not believed to be the case due to the small size of these habitats. Nevertheless, they are expected to support small populations of songbirds and rodents not otherwise found in the vicinity. These are expected to include lesser and Lawrence's goldfinch, ash-throated flycathers, white-crowned sparrows and pacific tree frog.

High Interest Species

Several species which were observed or are expected to occur within the Hidden Springs project area have been given special status designations by governmental agencies and private conservation groups.

One species designated as "rare" by the California Department of Fish and Game potentially occurs within the project area. This is the Stephen's kangaroo rat (Dipodomys stephensi), whose range includes the study area (California Department of Fish and Game, 1982). Historically, the species was found throughout the San Jacinto Valley of Riverside County, with small populations also being found in southern San Bernardino Valley and northwestern San Diego County. Recent surveys by Thomas (1973) and

Bleich and Schwartz (1974), however, indicate the current distribution includes less than 20 isolated localities. This reduction is believed to be due to widespread agricultural and urban development within areas of preferred habitat. Based on information gathered to-date, soil types and vegetation density appear to be the primary ecological factors limiting the distribution of this species (Bleich, 1977, 1983; Thomas, 1975). Generally, populations are found in soils having high percentages of sand and gravel in relatively flat or gently rolling areas and covered by open, grassy herblands where scattered shrubs occur.

The entire Pigeon Pass Valley was prime habitat for the rare Stephen's kangaroo rat in historic time, i.e., before agriculture. This species prefers open grassy flats with scattered shrubs and sandy or loamy soils. It can tolerate disturbed areas that are uncultivated. It is replaced by the Pacific Kangaroo Rat where the terrain is hilly or densely covered with shrubs. Since most of the project site is cultivated hills, only the untilled flatlands near the edge of the hills remain as suitable habitat.

Historically, Dipodomys stephensi has been found in the project area. Specimens have been taken from: 1) Reche Canyon, about three miles northwest of the project site; 2) Perris Lake, about eight miles southeast; 3) March Air Force Base, three miles southwest of the project site.

Recent trapping (PRC Toups, 1982) did not find the species on the North County Specific Plan site which contains the southern 279 acres of the Hidden Springs site. It is, therefore, concluded that even though a small percentage of the project may be suitable habitat, the species does not occur on-site.

The site also provides habitat for a group of birds included on the Audubon Society's early warning list, known as the "Blue List" (Tate et. al. 1982). These bird species are listed in Section VI.D, Technical Appendices - Biological Study.

Blue-listed species are not rare or endangered and the listing is advisory only. According to the Audubon Society, which updates and publishes the list annually, the list is an early warning list of species whose populations indicate non-cyclical declines or range contractions and which are recommended for monitoring by wildlife agencies, conservation groups and individual researchers.

No rare or endangered plant species are reported from the project area (Smith et. al, 1980).

Areas of Special Biological Importance

As indicated by the preceding discussion and the wildlife species inventory, included in the Biological Assessment found in Section VI.D., Technical Appendices, the site provides habitat for many wildlife, including a number of

blue-listed species. In addition, the areas is considered to be a fairly important raptor wintering area. This determination was made as a result of the area being a location where raptorial birds (hawks, vultures, owls and falcons) concentrate due to a high abundance of roosting sites, a good supply of prey species (small mammals and birds) and suitable hunting habitat (generally open brushland and grassland).

On-site, the coastal sage scrub and the rock outcroppings which are found throughout the hillsides are important habitats for all birds of prey. Also, the agricultural fields at the edge of the hills are important to falcons (American kestrel, merlin and prairie falcon). Although not supporting resident populations of prey, these birds of prey species take smaller migratory birds which flock and forage in the agricultural fields.

As a raptor wintering area, however, the site is not of high significance within the context of regional biological resources. It was not, for example, called out as an area of high biological importance by the California Department of Fish and Game (1979) as was the area around Perris Reservoir because of its raptor habitat.

Impacts - Biology

Implementation of the Hidden Springs Specific Plan will result in adverse impacts to vegetation and wildlife, including loss of habitat and harrassment.

Loss of Habitat

Construction activities will result in the removal of physical habitats through cut, fill and other grading activities necessary for roads, building pads, utilities, fuel modification and flood control. The first order impacts of habitat loss will be the direct loss of vegetation and the destruction of less mobile wildlife forms.

In and of itself, the significance of vegetation loss will depend on the diversity and availability of plant communities and associations affected. From the standpoint of biological diversity, the loss of native communities such as coastal sage scrub will have an inherently greater significance than the loss of non-native or highly disturbed communities, such as rural/agriculture. The same will generally be true for the loss of less mobile wildlife forms, since they are highly habitat dependent and their abundance and diversity are directly related to those of their habitats.

The impacts of vegetation loss through direct removal will, in turn, have potentially significant adverse effects on wildlife. As vegetation is removed or otherwise destroyed, the associated wildlife will either be destroyed (as mentioned above for less mobile forms) or will be displaced

to adjacent habitat areas where they will crowd and disrupt local populations. Although increased competition and predation will act rapidly to return population numbers to habitat carrying capacity levels, either displaced or local wildlife will be lost. The effect will be increased in magnitude and duration if this impact occurs in the spring when most wildlife are reproducing. Other determinants of their severity are the relative importance of habitats lost to local and regional wildlife populations, the abundance and diversity of wildlife these habitats support, the availability of these habitats, and the habitat dependency of the associated wildlife.

Harrassment of Wildlife

Harassment is defined as those activities of man and his associated domestic animals which increase the physiological costs of survival or decrease the probability of successful reproduction in wildlife populations. The most common forms of harassment expected to accompany development of the site include excessive construction-related noise, background noise, light and glare, and the introduction of feral cats, dogs and children which are unnatural predators and competitors for wildlife.

Potentially Significant Adverse Impacts

Very low to medium low density residential uses and a variety of urban support uses and infrastructure are proposed over approximately 305 acres of the 483-acre site. Generally, this area coincides with the level and more gentle lower slopes of the site.

Although the uses proposed will require the complete removal of existing vegetation and habitats, the majority of this area is not of biological significance due to past disturbances associated with agricultural activities. Therefore, direct loss of habitat over most of the proposed development area will not be significant. Possible exceptions to this generality are discussed below.

Conversion of grassland and barley fields to residential housing or urban support uses will reduce areawide foraging habitat for raptors. Data developed by PRC Toups (1982) reveals, however, that at least during the spring, barley fields contain very low numbers of small mammal prey species. This supports the findings of this assessment which concluded that the raptor foraging habitat on-site was not of high significance. Therefore, this impact, while adverse, is not considered to be significant.

Harassment of bird of prey populations using the hillsides and ridges within the site is also a potential adverse impact. As the lowlands adjacent to the hillsides are developed, human activity and noise will cause less tolerant species to leave the area. This impact will be compounded by the loss of adjacent foraging habitat as described above. These impacts will affect several species of raptorial birds. As above, however, the site and adjacent areas are not of high significance to regional populations of birds of prey.

The adverse impacts described above for the proposed project will also contribute on an incremental basis to cumulative impacts to biological

resources. These impacts are those which are now occurring in the region as a result of past and planned developments to the west. These impacts include:

- o An overall reduction in the native and naturalized biotic resources of the region.
- o Loss of primary and secondary habitat for migratory populations of birds of prey which are winter visitors to the region
- o Loss of habitat suitable for Stephen's kangaroo rat, a rare species.

Mitigations - Biology

The Hidden Springs Specific Plan preserves approximately 157 acres of natural open space, encompassing the majority of existing native coastal sage scrub on-site. Within the "wooded" park the majority of existing eucalyptus trees are also planned to remain. The proposed natural open space and retention of eucalyptus stands are significant affirmative features of the proposed plan. In this regard, it is an effective mitigation measure which partially alleviates the significant adverse impacts discussed in the preceding section.

The following measures are recommended by the Biological Consultant to further minimize project impacts:

- Access to the natural open space area should be limited to designated trails.

- Revegetation of cut and fill slopes, and other graded areas should be accomplished with plant pallettes containing predominantly native species. Steeper slopes should be revegetated with a mixture of coastal sage scrub species, while more level areas should be revegetated with genera or species of native perennial grasses including stipa sp., poa sp. and others.

- Possibly in conjunction with fuel modification zones, dense brush should be cleared from lower, more gentle slopes of hillsides to replace bird of prey foraging habitat lost.

6. Cultural, Historical Resources

All discussions of cultural and historical resources are based on "An Archaeological Assessment of the Hidden Springs Specific Plan" by Christopher E. Drover, Ph.D., Consulting Archaeologist (August 1984) and on the Cultural Resources Section of the North Country Specific Plan Environmental Impact Report prepared by PRC Toups (January 1982). The August 1984 Archaeological Assessment is included as Section VI.E., Technical Appendices - Cultural Resources Report.

As part of the August 1984 Archaeological Assessment, an archaeological records check was undertaken at the Archaeological Research Unit (ARU) University of California, Riverside for the entire 483 acre project site. Also as part of the Archaeological Assessment, a surface survey was

conducted on the approximately 204 acres of land not surveyed within the scope of work of the North Country Specific Plan.

One site (RIV. 2186) has been previously recorded on the southern 279 acres, but none have been recorded for the 204 acre addition. RIV-2186 is described as a recent, historic, adobe structure which was recorded as part of the North Country Specific Plan. Three other sites (RIV-683, 720 and 2254) lie within one half mile of the subject parcel. These three bedrock food processing sites are too distant to be affected by the proposed development.

Site RIV-2186 has been previously described in the North Country Specific Plan EIR as

> "North Country Review No.2 (NCR-2) is a historical, residential site constructed of adobe walls with a plaster exterior. While no evidence was observed that would suggest the site dates prior to A.D. 1900, the proximity of other historical sites (RIV-497) warranted further information being collected regarding this resource. The analysis revealed that evidence of relatively recent occupation is present, such as plaster walls, electric conduit and water pipe. The structure has a concrete foundation, uses dimensioned lumber and includes a floor joist system. It appears to be constructed during the 1930's."

As a result of survey activities, four new archaeological sites were observed for the northernmost, 204-acre parcel. These sites will be referred to as Griffin A-D, and are described below.

Griffin A:

This particular site consists of a single bedrock grinding slick located on a low ridge, leading west into a steep-sided canyon on the eastern face of Box Springs Mountains. The site, located west northwest of an abandoned house in the southwestern portion of the new study area is just above what appears to have been a spring which still supports some small, green sycamore trees.

Griffin B:

The second site located consists of a single, exotic fragment of either thermal fractured or percussion fractured quartz in an eastern facing rock shelter located in the west central portion of the 204-acre study area. Not much evidence exists to suggest a habitation site; however, a significant amount of material has exfoliated from the roof of the overhang which may obscure other artifacts. Some fire discoloration of the ceiling exists, however, this is not necessarily an indicator of habitation due to the frequency of brush fires.

Griffin C:

The third site located on the property consists of four proximous boulders with bedrock grinding slicks. Some of the features are difficult to ascertain due to the friable nature of the granite. Ten to fifteen different grinding facits are located on these boulders which lie within a 30 meter radius of each other at the mouth of another ephemeral drainage which empties a small, eastern facing canyon of the Box Springs Mountains.

Griffin D:

The final site is a single bedrock grinding slick located on a small, isolated granite boulder approximately 30 meters northwest of an abandoned house in the southwestern portion of the new parcel. The site is not directly associated with any freshwater drainage, the nearest being an intermittent drainage approximately 100 meters east.

The general settlement pattern reflected here is not dissimilar to that described for the Perris Reservoir Project (O'Connell et al. 1974); consisting of occasional food processing/ collecting sites associated with water sources and located at the interface of rather flat, topographical areas (dominated by the food abundant sage-scrub plant community) and steep topography where bedrock granite

suitable for grinding surfaces can be found. It would appear that such sites represent the exploitation and processing of seasonally available food sources.

At European contact times, the study area was the cultural boundary of the Cahuilla and Gabrielino groups. These cultures were linguistically comprised of dialects of the Shoshonean language family. Settlement patterns in the project area seem to consist of campsites (located near perennial water sources) and temporary processing locations. Considering the topography and proximity to water of the subject parcel, site density may be expected to be moderate. Based on settlement/subsistence models, campsites and temporary food gathering/processing sites would be expected. Much of the property contains remnant native vegetation characterized as a sage-scrub plant community, and is dominated by California Sagebrush (Artemisia californica), white sage (Salvia apiana) and Buckwheat (Erigonum fasciculatum). The above mentioned plant community is recognized as having ethnographic uses among the Cahuilla.

Impacts - Cultural, Historical Resources

Implementation of the Hidden Springs Specific Plan would result in either direct or indirect impacts to all four sites found within the 204-acre study area. All four sites are located within the western portion of this northern study area, where Very Low Density (1-3 du/acre) residential uses are proposed.

Given the apparent recent age of the structure at Site RIV-2186, impacts to it are not considered significant.

Mitigations - Cultural, Historical Resources

Mitigation of bedrock grinding sites (Griffin A, C and D) would consist simply of the formal recording of the sites which was accomplished by the August 1984 Archaeological Assessment included as Section VI.E., Technical Appendices - Cultural Resources Report.

Site Griffin B is the only site which appears to require additional mitigation efforts. Griffin B potentially has subsurface deposits which could be disturbed by development directly, or indirectly by unauthorized collection. It is therefore recommended that the site be further investigated to determine its potential for subsurface deposits. Such testing would require approximately five person-days of fieldwork to accomplish.

7. Climate and Air Quality

Climate

The project site lies within the South Coast Air Basin (SCAB), which encompasses about 8,630 square miles in Southern California. The climate of the basin is classified as Mediterranean, characterized by a pattern of cool, wet winters and warm, dry summers. Typically, dry summers are caused by a semi-permanent high pressure cell located over the eastern Pacific Ocean. This system generally

blocks storms from moving into the basin. It also restricts the ability of the atmosphere to disperse air pollution.

Climate in the project vicinity typifies that of the basin at large. Temperatures in the project area, as measured at nearby March AFB average 63 degrees annually. Seventy-six days per year reach 90 degrees or more and seven days drop to freezing or slightly below. Approximately 90% of the precipitation occurs between November and March, when the high pressure system in the eastern Pacific weakens, allowing storms, mostly from the northern Pacific, to move through the area. The average amount of annual rainfall measures at 8.9 inches per year. There are about 20 rainy days in an average precipitation year.

The general wind pattern across Riverside has two components - a light to moderate onshore wind from the northwest by day and a very weak offshore wind out of the San Jacinto/Hemet Valley from the southeast at night. The light daytime onshore winds cross much of the Los Angeles Basin, so that air arriving in Riverside late in the afternoon carries unburned hydrocarbons and oxides of nitrogen generated from dense coastal traffic concentrations early that morning.

Based upon measurements taken at Perris Valley Airport and data compiled at March Air Force Base located adjacent to the project site, the estimated speed of prevailing winds in the Moreno Valley area is 6 knots. However, wind speed and direction are typically unstable, due to occasional northerly gusts.

Air Quality

The Environmental Hazards and Resources Element of the Comprehensive General Plan addresses air quality, with the objective of supporting local, regional, State and National Programs which improve air quality in the South Coast Air Basin and implementing appropriate air quality control tactics related to land use decisions, transportation practices and energy use.

Ambient air quality in the SCAB is measured by concentrations of various pollutants. The combination of air pollutants is determined by local traffic patterns, land uses, meteorological and topographical conditions.

Pollutants are classified as "primary" or "secondary", according to the manner in which the pollutants are formed. Primary pollutants are emitted directly into the atmosphere. These include carbon monoxide oxides of nitrogen, sulfur dioxide, particulates and various hydrocarbons. Secondary pollutants are those created over a period of time by chemical and photo-chemical reactions in the air mass and often involve primary pollutants. Secondary pollutants include ozone, photo-chemical aerosols and peroxyacyl-nitrates.

The project site lies within the Riverside County Air Pollution Control District, which maintains monitoring stations throughout the County. Existing patterns of emissions and ambient air quality show that Riverside County contributes only a small percentage of the basinwide pollution

burden, but experiences a very high frequency of unhealthful air quality, compared to the remainder of the basin.

At present, oxidant is the most serious problem in the project area, with oxidant levels at the Perris station exceeding the State standard 140 days during 1982. As oxidant is formed by a multi-step photochemical reaction between oxides of nitrogen and reactive hydrocarbons, extended period of intense sunlight, which are characteristic of the project area, contribute to the high oxidant levels. Total Suspended Particulates (TSP) also continue to be a major problem in the South Coast Air Basin, with Riverside County violating the state standard on 67% of the days sampled, the highest rate in the basin.

The monitoring station nearest the site is Perris Air Quality Monitoring Station. Only quantities of Oxidant (Ozone) are measured at that facility.

In accordance with the State of California Air Resources Board's (ARB) Guidelines for Air Quality Impact Assessments: General Development and Transportation Projects (May 1983), the following tables are presented. The ARB guidelines suggest that a summary of air quality trends for the previous three years be prepared, including number of days federal and state air quality standards were exceeded. Data for 1983 is not yet available from the ARB; therefore data from 1982, 1981 and 1980 was used in preparation of the tables entitled "1982 Air Quality Summary" "1981 Air Quality Summary" and "1980 Air Quality Summary". (See Tables III-3, III-4, and III-5).

TABLE III-3

1980 AIR QUALITY SUMMARY

Pollutant	California Air Quality Standards	Days Standard Exceeded Perris/County/Basin	National Air Quality Standards	Days Standard Exceeded Perris/County/Basin
Carbon Monoxide	10 PPM 12 Hours	NM/0/60	9.3 ppm 8 Hours	NM/1/94
Oxidant (Ozone)	.10 PPM 1 Hour	144/176/210	0.12 ppm 1 Hour	20/68/102
Nitrogen Dioxide	.25 ppm 1 Hour	NM/0/44	0.053 ppm 1 Hour	NM/0/44
Sulfur Dioxide	.50 ppm 1 Hour	NM/0/0	NA	NA
Particulates (TSP)	100 UG/M^3 24 Hours	NM/234/264	260 UG/M^3 24 Hours	NM/35/47
Lead	1.5 UG/M^3 30 Days	NM/1/7	1.5 UB/M^3 30 Days	NM/35/47
Sulfate	25 UG/M^3 24 Hours	NM/20/35	-	-

NM = Not Measured
PPM = Parts per Million
UG/M = Measurement of Volume

TABLE III-4

1981 AIR QUALITY SUMMARY

Pollutant	California Air Quality Standards	Days Standard Exceeded Perris/County/Basin	National Air Quality Standards	Days Standard Exceeded Perris/County/Basin
Carbon Monoxide	10 PPM 12 Hours	NM/0/50	9.3 PPM 8 Hours	NM/1/80
Oxidant (Ozone)	.10 PPM 1 Hour	174/208/233	0.12 PPM 1 Hour	118/150/187
Nitrogen Dioxide	.25 PPM 1 Hour	NM/2/38	0.053 PPM 1 Hour	NM/0/
Sulfur Dioxide	.50 PPM 1 Hour	0/0/0	NA	NA
Particulates (TSP)	100 UG/M^3 24 Hours	NM/265/288	260 UG/M^3 24 Hours	NM/18/26
Lead	1.5 UG/M^3 30 Days	NM/0/3	1.5 UG/M^3 30 Days	NM/0/1
Sulfate	25 UG/M^3 24 Hours	NM/0/4	-	-

NM = Not Measured
PPM = Parts per Million
UG/M = Measurement of Volume

TABLE III-5

1982 AIR QUALITY SUMMARY

Pollutant	California Air Quality Standards	Days Standard Exceeded Perris/County/Basin	National Air Quality Standards	Days Standard Exceeded Perris/County/Basin
Carbon Monoxide	9.1 PPM 8 Hours	NM/0/72	9.3 PPM 8 Hours	NM/0/14
Oxidant (Ozone)	.10 PPM 1 Hour	140/157/198	0.12 PPM 1 Hour	90/113/151
Nitrogen Dioxide	.25 PPM 1 Hour	NM/0/18	0.053 PPM 1 Hour	NM/0/18
Sulfur Dioxide	.50 PPM 1 Hour	0/0/0	NA	NA
Particulates (TSP)	100 UG/M^3 24 Hours	NM/186/206	260 UG/M^3 24 Hours	NM/1/5
Lead	1.5 UG/M^3 30 Days	NM/0/0	1.5 UG/M^3 30 Days	NM/0/0
Sulfate	25 UG/M 24 Hours	NM/4/11	-	-

NM = Not Measured
PPM = Parts per Million
UG/M = Measurement of Volume

Impacts - Climate and Air Quality

Climate

Although it is possible that the proposed project would influence micrometeorological conditions on and around the project site, it is anticipated that these alterations would be minor.

Air Quality

The proposed residential land uses will impact air quality primarily because of their dependence upon the automobile as the prime means of transportation. Project-related automobile emissions from the project mix with those from hundreds of similar projects throughout the South Coastal Air Basin. Other project-related emissions result from construction activities from power plants that generate electricity and gas to supply energy needs, but these emissions are either temporary or much less in magnitude and importance compared to the vehicular emissions.

Site Preparation & Construction

Fugitive dust, which will be created by soil disturbances during clearing, grading and travel on unpaved surfaces, is the main air quality impact to occur during construction. It is estimated that 110 lbs. of dust per acre per day of construction activity will be generated by project development. Regular watering as required by the SCAQMD minimizes fugitive dust levels.

Heavy-duty trucks, earth movers, air compressors and power generators will be used during site preparation and construction. Various pollutants, principally exhaust emissions, dust and particulates, will be emitted on a short-term basis. The amount of pollutants emitted during site preparation and construction cannot be determined at this time, due to a lack of specific information, such as location, extent and techniques of grading and construction. In order to accurately calculate these factors, it is also necessary to know which motors will propel vehicles during site preparation and construction for a specific number of hours, as concentrations of gasoline-powered motor emissions differ from those of diesel-powered motor emissions.

Operation of Complete Project

When the proposed project is completed and occupied, air quality in the project area will be directly affected by: 1) motor vehicle emissions from project traffic and, 2) indirectly influenced by pollutants emitted by power generation plants which serve the project in the South Coast Air Basin.

1) Motor Vehicle Emissions

The greatest project-related air quality impact results from the 14,860 vehicle trips the project will generate at build-out. The amount of motor vehicle emissions associated with the proposed project is calculated based upon the total vehicle miles traveled (VMT) at various phases of development. The VMT can be

determined by multiplying the number of Average Daily Trips (ADT) generated by the development times the average trip length, in miles.

A 7-year build-out was assumed in order to calculate a "maximum probable impact" situation. The first phase was assumed to generate 4,390 vehicle trips per day (approximately 30% of total project traffic generation), by 1990 which includes Traffic Zone 3. The second phase, or project completion, was estimated to generate 14,860 vehicle trips, includes Traffic zones 1, 2 & 3.

Year	Total Trips	Trip Length	Total Vehicle Miles Travelled
1990	4,390	11 miles	48,290
1992	14,860	11 miles	163,500

Due to the motor vehicle emissions control program, emissions from the motor vehicles in Southern California are lower each year. Table III-6, Air Quality Emissions for Proposed Project, shows the amount of emissions estimated for 1990 and 1992. The amount of motor vehicle emissions associated with the proposed project has been estimated employing a methodology developed by the SCAQMD, which utilizes mobile emission factors determined by the California Air Resources Board.

TABLE III-6
AIR QUALITY EMISSIONS
FOR PROPOSED PROJECT

1990 Daily Vehicle Emissions for Proposed Project

CO = 48,290 VMTx10.71 gm/mi 1lb/454 gm = 1,140 lbs/day
NO = 48,290 VMTx 1.73 gm/mi 1lb/454 gm = 184 lbs/day
SO = 48,290 VMTx 0.24 gm/mi 1lb/454 gm = 25 lbs/day
Part=48,290 VMTx 0.33 gm/mi 1lb/454 gm = 35 lbs/day
THC= 48,290 VMTx 1.00 gm/mi 1lb/454 gm = 106 lbs/day
NMHC=48,290 VMTx 0.86 gm/mi 1lb/454 gm = 92 lbs/day

1992 Daily Vehicle Emissions for Proposed Project

CO = 163,500 VMTx9.97 gm/mi 1lb/454 gm = 3,590 lbs/day
NO = 163,500 VMTx1.63 gm/mi 1lb/454 gm = 587 lbs/day
SO = 163,500 VMTx0.24 gm/mi 1lb/454 gm = 86 lbs/day
Part=163,500 VMTx0.32 gm/mi 1lb/454 gm = 115 lbs/day
THC= 163,500 VMTx0.96 gm/mi 1lb/454 gm = 345 lbs/day
NMHC=163,500 VMTx0.82 gm/mi 1lb/454 gm = 295 lbs/day

(CO) = Carbon Monoxide
(NO) = Nitrogen Oxide
(SO) = Sufur Dioxide
(Part) = Particulate
(THC) = Total Hydrocarbons
(NMHC) = Non-Methane Hydrocarbons

Average speed assumed in emission rates - 35 mph; Based on emission factors as noted in SCAQMD Air Quality Handbook for EIR's., Dec. 1983.

Energy Consumption

The proposed project will create a demand for electrical energy which is generated from power plants utilizing fossil fuels. Electric power generating plants are distributed throughout the SCAQMD area, and their emissions contribute to total regional pollutant burden, as well as to local pollution concentrations. The level of emissions that could result from generation of electricity for homes in the project area is computed by multiplying the projects' total energy demand by the emission factor for each pollutant (as determined by the SCAQMD).

According to Southern California Edison, the annual electric energy usage per unit is estimated 5,838 kwh per year. This estimate is based on the Air Quality Handbook for EIRs (December, 1983) data for residential use. The total electric energy usage for 1350 units would be approximately 7,899,000 annual KWH. Table III-7 Power Plant Emissions, indicates emissions anticipated from consumption of 7,899,000 KWH generated by an oil-fired facility per year.

TABLE III-7

POWER PLANT EMISSION*

Carbon Monoxide= 7,899,000KWH x 0.211bs/1000KWH= 1,6601bs/yr
Nitrogen Oxide = 7,899,000KWH x 2.1 lbs/1000KWH=16,5901bs/yr
Sulfur Oxide = 7,899,000KWH x 1.4 lbs/1000KWH=11,0601bs/yr
Particulates = 7,899,000KWH x 0.181bs/1000KWH= 1,4201bs/yr
Reactive Organic=7,899,000KWH x 0.131bs/1000KWH= 1,0301bs/yr

*Resulting from consumption of 7,899,000 KWH per year generated by a power plant, assuming average hydro year and low sulfur fuel oil/natural gas fuel mix.

The primary use of natural gas by the project will be for combustion to produce space heating, water heating and other miscellaneous heating or air conditioning. Consumption is estimated by Southern California Gas Co. (1983) at 6,665 cubic feet per month per single family dwelling unit. Table III-8 Natural Gas Emissions, indicates emissions anticipated from the consumption of 6,665 cubic feet per month per dwelling unit. The total monthly natural gas consumption for 1350 units would be approximately 9,017,700 cubic feet.

TABLE III-8
NATURAL GAS EMISSIONS

Carbon Monoxide=9,017,600cu.ft.x20lbs/106cu.ft.=180lbs/mo.
Nitrogen Oxides=9,017,600cu.ft.x80lbs/106cu.ft.=720lbs/mo.
Sulfur Oxides =negligible
Particulates =9,017,600cu.ft.x0.15lbs/106cu.ft.=1.3lbs/mo.
Hydrocarbons =9,017,600cu.ft.x 8lbs/106cu.ft.= 72.1lbs/mo.

In order to evaluate the magnitude of the emissions generated by Hidden Springs, the Air Quality Handbook for EIR's (Dec. 1983) recommends comparing the project emissions to the total emissions burden in an area. The following table compares area projections of tons of emissions per average summer weekday for the year 1987 to those generated by the project.

TABLE III-9
1987 EMISSIONS INVENTORY (TON/DAY)

Pollutant	Project Related Emissions	SRA* Emissions	% of SRA Total	Basin Emissions	% of Basin Total
Carbon Monoxide	0.57	174.69	.003%	6227.74	.000091
Nitrogen Dioxide	.12	30.29	.004%	958.96	.000125
ROG**	0.05	28.51	.0017%	1002.41	.000049

*SRA = Source Receptor Area 23
**Reactive Organic Gas is a species of organic gas (hydrocarbons) which undergoes photochemical reactions along with other compounds in the air to form secondary pollutants, primary ozone.

Mitigations - Climate & Air Quality

The quality of particulate matter and other pollutants emitted during the grading and construction phase of the proposed project may be reduced through watering graded surfaces and planting groundcover as dust palliatives.

Because most of the project-related air pollution emissions are generated by automobiles, there is very limited potential for any effective mitigation on the part of the developer. Although standard mitigations, such as encouraging transit use or

bicycles, do little to alleviate the air quality degradation, any reduction at all is to be encouraged and possible techniques for emission reduction included in the project design.

Modes of transportation other than the automobile (bicycles, pedestrian) should be encouraged as a strategy in reducing pollution from mobile sources. The proposed network of trails providing access to residential and recreational areas should assist to reduce residents' reliance on the automobile. These routes should be widely publicized.

Additionally, the design of efficient and direct traffic flow patterns on the project site can help reduce the quantity of air pollutants generated, by minimizing the places in the roadway system where automobiles would be idling unnecessarily. Extension of public transit routes to serve the property would also assist in this regard.

Residents of Hidden Springs will be able to utilize the various land uses at the nearby North Country development which will reduce driving distances, and therefore reduce vehicular emissions. These land uses include commercial facilities, recreational lakes, a community clubhouse and parks.

The SCAQMD's Regional Air Quality Strategy proposes measures to reduce pollutants from mobile sources. These include: 1) expansion of ride-sharing efforts; 2) expansion of transit systems; 3) encouragement of increased bicycle travel; 4) improvements in traffic flow; 5) encouragement of

pedestrian travel; 6) expansion of interurban bus and rail systems and 7) freeway ramp metering. These tactics are noted above.

Energy Consumption

Reduction of stationary source air pollution emissions may be achieved by incorporating energy-saving devices and additional insulation into the proposed homes as discussed in Section IV.A.4., Energy Conservation.

The Environmental Hazards and Resources Element of the Comprehensive General Plan sets forth Land Use Standards - Air Quality Impacts & Mitigations, stating that major development proposals which may create a significant new source of air pollutant emissions must contribute to the mitigation of adverse air quality impacts. Mitigation measures include the following:

- Bicycle facilities, such as bike lanes, racks and lockers
- Transit facilities such as benches, shelters, and turnouts
- Park & Ride facilities
- Energy efficient facilities
- Solar access orientation of structures
- Solar heated and cooled structures and swimming pools

8. Circulation, Traffic and Scenic Highways

The following information is derived from the "Griffin at Sunnymead Ranch Traffic study", contained in Section VI., C., Technical Appendices - Traffic Analysis. This study was prepared by the firm of Kunzman Associates (Jan. 1985).

Existing Conditions

The 483-acre project site, located on the westerly side of Pigeon Pass Road midway between Box Springs Mountain Road and Manzanita Avenue, is vacant at present and does not generate traffic. None of the project roadways is shown as an eligible or designated scenic highway or corridor per the Riverside County Scenic Highway Program.

Circulation System

Roadways that will be utilized by the development include Pigeon Pass Road, Ironwood Avenue, and the State Route 60 Freeway. Their Riverside County Master Plan of Highways designations are shown on Figure III-6. In the vicinity of the project site, the following roadway conditions exist.

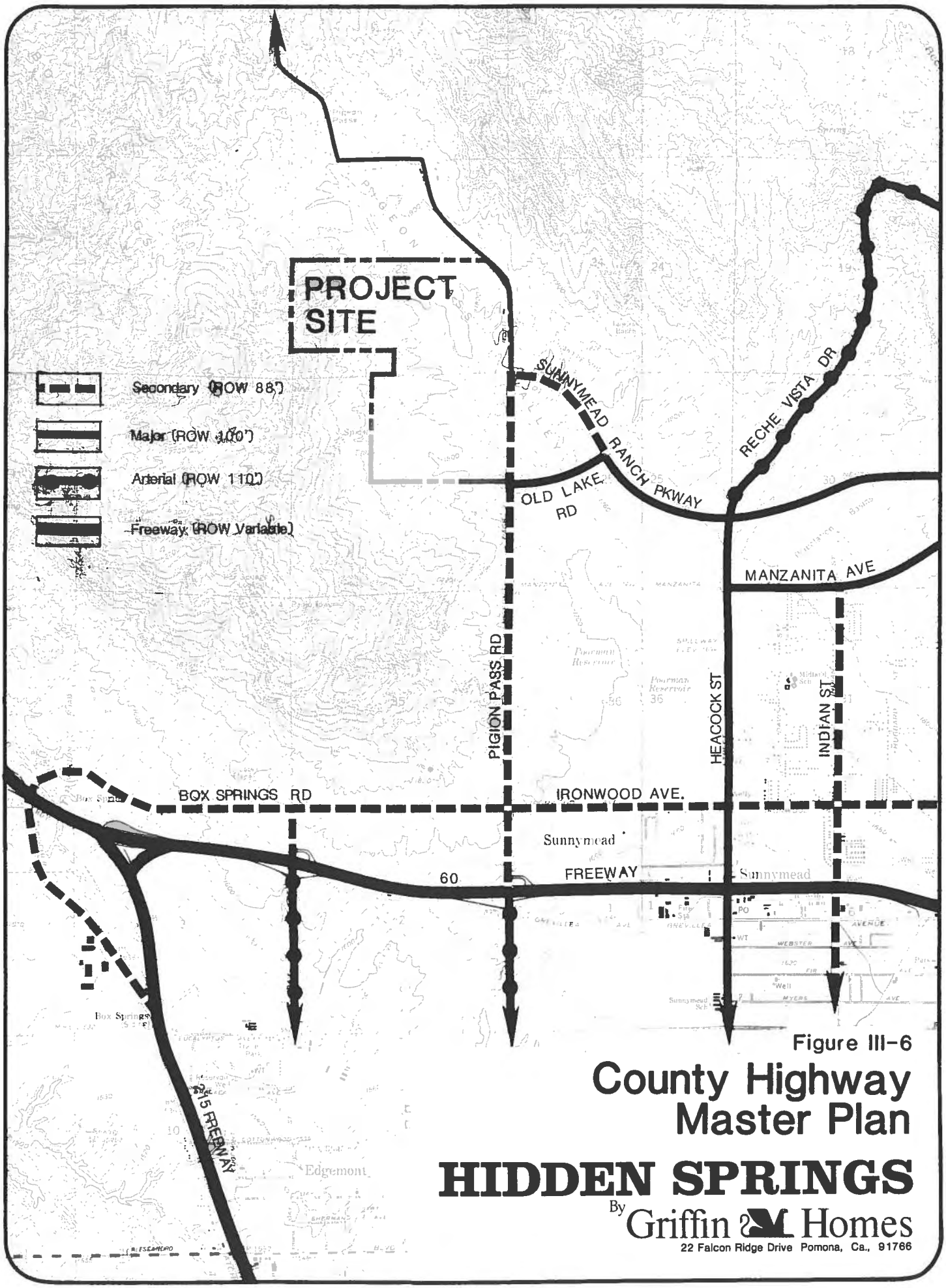


Figure III-6

County Highway Master Plan

HIDDEN SPRINGS

By Griffin Homes

22 Falcon Ridge Drive Pomona, Ca., 91766

Pigeon Pass Road: This is a two lane north-south roadway providing access to the project site. It is designated as a four lane undivided secondary roadway on the Riverside County Master Plan of Highways.

Ironwood Avenue: This is a two lane east-west roadway paralleling the State Route 60 Freeway. It is designated as a four lane undivided secondary roadway on the Riverside County Master Plan of Highways.

State Route 60 Freeway: This is a two lane east-west freeway having a full interchange at Pigeon Pass Road - Frederick Street.

Figure III-7, Existing Traffic Conditions, identifies the existing roadway conditions for arterials near the site. The number of through lanes for existing roadways and the existing intersection controls are identified. It also depicts the average daily two-way traffic volumes. Traffic volumes were obtained from the Country of Riverside and the 1983 Traffic Volumes on State Highways from CalTrans and from field counts made by Kunzman and Associates, the project transportation planners and traffic engineers.

Daily Volume to Capacity Ratios

Roadway capacity is generally defined as the number of vehicles which can be reasonably expected to pass over a given section of road in a given time period. Congestion, high accident rates, the quality of traffic flow (Level of Service), and envi-

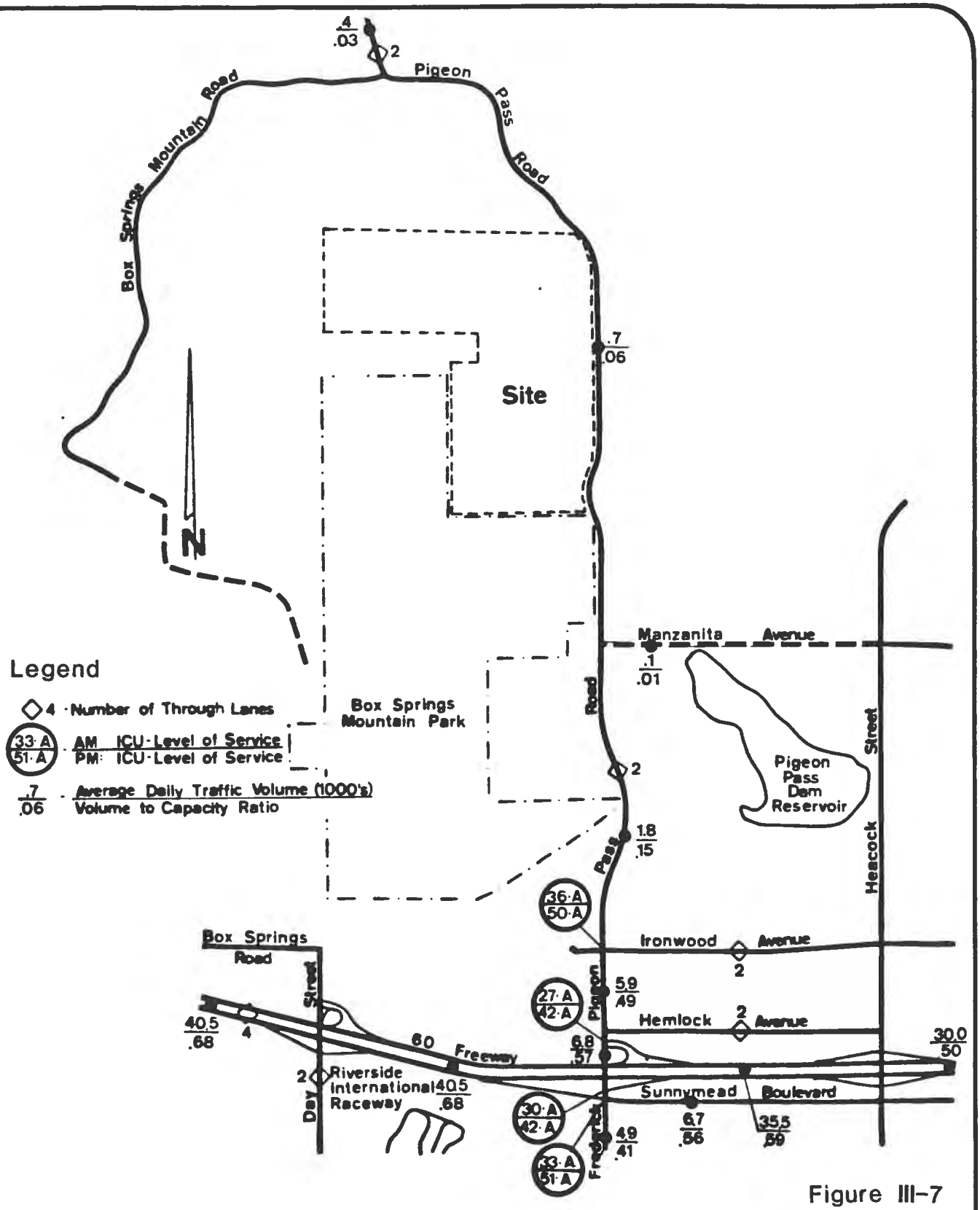


Figure III-7

Existing Traffic Conditions

HIDDEN SPRINGS

By Griffin Homes

22 Falcon Ridge Drive Pomona, Ca., 91766

Source: Kunzman Associates

ronmental acceptability all come into play in defining a particular roadway's effective capacity. It is possible to identify maximum desirable volumes for typical roadway types based on the number of roadway travel lanes. These daily volumes reflect estimates of the amount of daily traffic which will result in peak hour traffic volumes equal to the maximum desirable capacity of each roadway type. The Traffic Analysis, contained as Section VI. C. of this document contains highway capacities for Riverside County General Plan roads for various levels of service.

By dividing existing daily traffic volumes by the daily roadway capacities, existing daily volume to capacity ratios have been calculated and are also shown on Figure III-7, Existing Traffic Conditions. As noted therein, all existing roadways in the vicinity of the site are operating within Level of Service C.

Intersection Capacity Utilization

The technique used to assess the operation of an intersection is known as Intersection Capacity Utilization (ICU). To calculate an ICU, the volume of traffic using the intersection is compared to the capacity of the intersection. ICU is usually expressed as a percent. The percent represents that portion of the hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity.

The ICU's for existing intersections in the vicinity of the project are shown in Figure III-7, Existing Traffic Conditions. Existing ICU's are

based upon manual peak hour turning movement counts made by Kunzman Associates in August, 1984. An explanation of ICU and Level of Service is included in Section VI.C., Technical Appendices - Traffic Analysis. All intersections in the vicinity of the site operate at a Level of Service A for existing peak hour conditions.

Traffic Signal Warrants

Of the intersection studies in the project vicinity, only one currently meets signal warrants - Frederick Street (NS) and Sunnymead Boulevard/Eastbound 60 off ramp (EW). The County of Riverside is currently designing traffic signals for many intersections in the Sunnymead area. The above noted intersection is included in the signal design process with installation anticipated within the next two years. For detailed information of traffic signal warrants, see Section VI. C., Technical Appendices - Traffic Analysis.

Impacts - Circulation, Traffic, and Scenic Highways

Circulation System

The circulation system proposed by the Hidden Springs Specific Plan is shown on Figure IV-7, Master Circulation Plan. It will implement the Riverside County Master Plan of Streets and Highways. Access to the project site will be provided by Pigeon Pass Road (a secondary roadway), Old Lake Road (formerly Lakeview Road, a major roadway), and Sunnymead Ranch Parkway (formerly North County Boulevard - a secondary/major roadway) Pigeon Pass Road connects directly to Freeway 60. Sunnymead

Ranch Parkway leads to Perris Boulevard, which also connects to Freeway 60 south and east of the project site.

As described in Section IV.E.3. Trails, a pedestrian trail system is planned as part of the project, consisting of informal trails throughout the paseo greenbelts and park. A meandering combination bike and pedestrian trail is proposed along the main project collector. (See Figure IV-10, Community Trail Plan View and IV-11, Community Trail Cross-Section).

A) Impact on Current Traffic Conditions

Traffic Volumes

To estimate project-related traffic volumes at various points on the street network, a three step process is utilized. First, the traffic which will be generated by the proposed development is determined. Secondly, the traffic volumes are geographically distributed to major attractions of trips, such as employment centers, commercial centers, recreational areas or residential areas. Finally, the trips are assigned to specific roadways and the project-related traffic volumes are determined on a route-by-route basis.

Trip generation rates were determined for daily traffic, morning peak hour inbound and outbound traffic, and evening peak hour inbound and outbound traffic for the proposed land uses. By multiplying the traffic generation rates by the land use quantities, the traffic volumes are determined.

Traffic volumes generated by the project are shown in Table III-10, Griffin at Sunnymead Ranch Traffic Volumes, including the total trips generated by zone for each land use. The location of the three traffic zones is found within the traffic report contained in Section VI. C., Technical Appendices - Traffic Analysis. The project is anticipated to generate approximately 14,860 vehicle trips per day. Utilizing an average trip length of 11 miles, the proposed project will generate approximately 163,500 vehicle miles of travel. Once the project-related traffic is assigned to the existing street network and added to existing volumes, the traffic impact can be assessed. Figure III-8 illustrates the existing plus project traffic conditions, with recommended lanes.

Level of Service

Based on daily volume to capacity ratios and general plan highway capacities, all roadways in the vicinity of the project site are projected to operate within Level of Service C capacity or better for existing plus project traffic conditions.

Intersection Capacity Utilization (ICU) for the existing plus project traffic conditions have been calculated. All intersections in the vicinity of the project are expected to operate at a Level of Service A in the peak hours for existing plus project traffic conditions.

TABLE III-10
GRIFFIN AT SUNNYMEAD RANCH TRAFFIC VOLUMES

Zone	Morning Peak Hour In	Morning Peak Hour Out	Evening Peak Hour In	Evening Peak Hour Out	Daily
Zone 1:					
43 Very Low Density Units	20	30	30	20	560
54 Low Density Units	10	30	40	20	540
137 Medium Low Density Units	30	80	100	40	1,370
Total Zone 1	60	140	170	80	2,470
Zone 2:					
800 Medium Low Density Units	160	480	560	240	8,000
Total Zone 2	160	480	560	240	8,000
Zone 3:					
110 Very Low Density Units	40	80	90	60	1,430
209 Low Density Units	40	130	150	60	2,090
14.5 Acre School Site	10	10	10	20	870
Total Zone 3	90	220	250	140	4,390
Grand Total	310	840	980	460	14,860

Note: Trips generated are rounded to nearest 10.

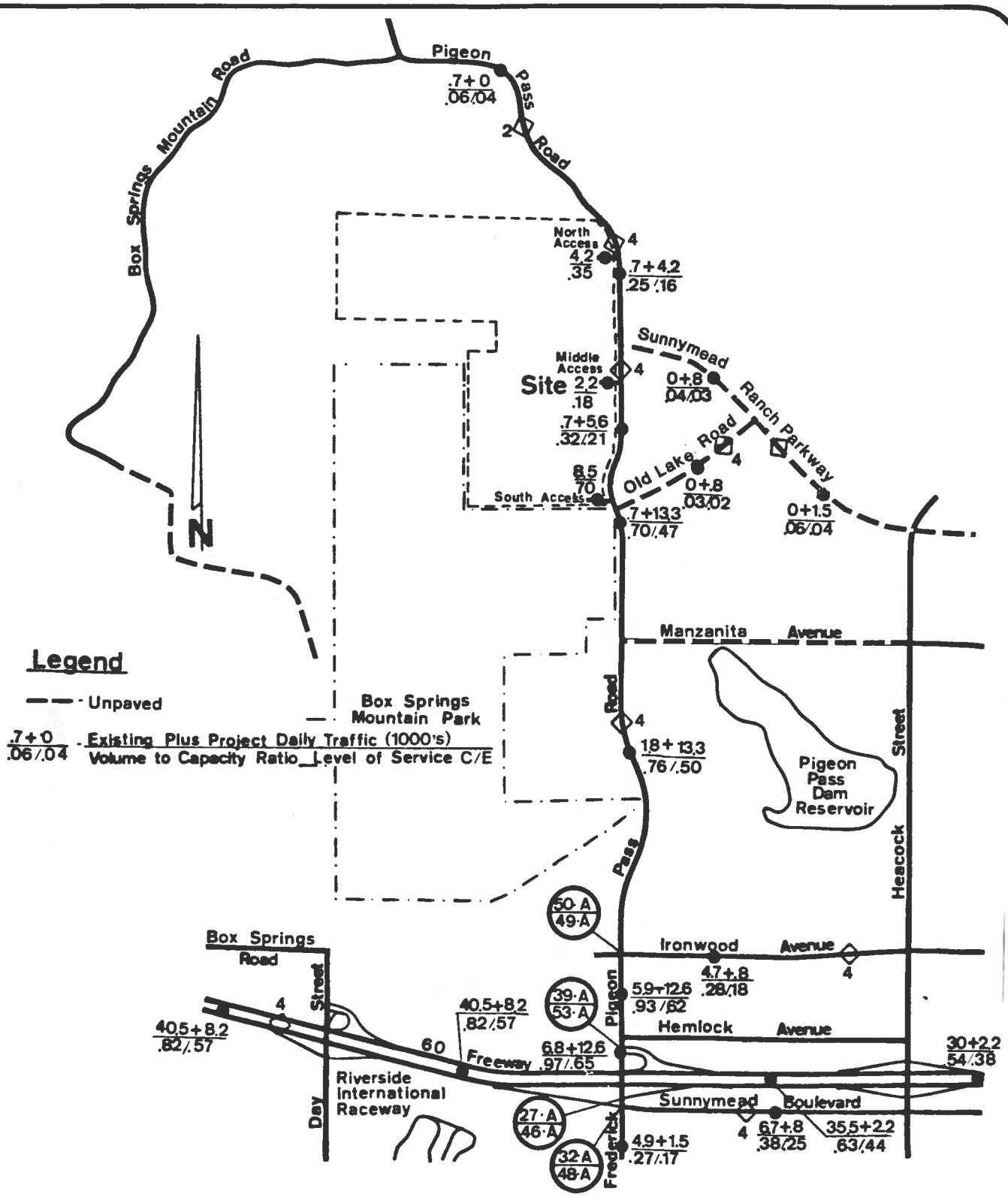


Figure III–8

Existing Plus Project Traffic Conditions

HIDDEN SPRINGS

By Griffin Homes

22 Falcon Ridge Drive Pomona, Ca., 91766

Source: Kunzman Associates

Traffic Signal Warrants

The unsignalized intersections in the vicinity of the project were assessed regarding the need for signalization resulting from project implementation. Of the three project accesses on Pigeon Pass Road, only the most southerly one meets signal warrants. This intersection coincides with the North Country specific plan roadway known as "Lakeview" or " Old Lake Road". Of the off-site roadways, only Pigeon Pass at the westbound State Route 60 Freeway ramps meet signal warrants. The Pigeon Pass Road - Ironwood Avenue intersection meets the Major street warrants, but not the Minor street warrants. This intersection should be monitored for possible future signalization.

B) Impact on Future Traffic Conditions - Surrounding Development

Traffic Volumes

Substantial additional development is presently planned in the vicinity of the site. To assess future traffic conditions, project traffic is combined with existing traffic and traffic from other surrounding development.

Planned development in the vicinity of the site includes the project discussed below:

North Country: The North Country development plan included a portion of the project site and a large area between Pigeon Pass Road and Perris Boulevard. The plan included 3491 dwelling units

and 15 acres of commercial uses. The information was derived from a traffic analysis dated June 21, 1981 prepared by Weston Pringle and Associates. The Pringle study indicated that the total daily traffic volume on Pigeon Pass Road from the North Country development would range from 2500 vehicles north of Manzanita to 10,700 vehicles south of Manzanita. If an adjustment is made to reflect only the traffic generated by the property easterly of Pigeon Pass Road, the North Country daily traffic on Pigeon Pass Road would range from 5600 north of Manzanita to 6100 south of Manzanita. Since the Pringle study did not address the North Country traffic's impact on the State Route 60 Freeway, the same daily traffic percentage split assumed for the Hidden Springs project was used for the North Country daily trips. The Pringle study indicated that 32,100 daily vehicle trips would be external. With adjustments made for the Griffin at Sunnymead Ranch development, and traffic using other than Pigeon Pass Road and Heacock Street for Freeway access, the North Country external trips were calculated to be 25,000 daily vehicle trips.

Daily Volume to Capacity Ratios

For existing plus project and other development, the daily traffic volumes and daily volume to capacity ratios have been calculated. Daily volume to capacity ratios are based on Levels of Service C and E capacities and assume the extension of existing arterials to service the site. Based on daily volume to capacity ratios for existing plus project and other development traffic conditions, Pigeon Pass Road will operate above Level of Serv-

ice C but below Level of Service E capacity from Manzanita to Sunnymead Boulevard. It is recommended that the functional classification of the overloaded section of Pigeon Pass Road be changed from Secondary to Major, if possible. Because of Tract Map approvals along Pigeon Pass Road, it may not be feasible to construct a full major cross-section. If a major cannot be obtained, the street will operate as a Secondary at better than Level of Service E capacity but worse than Level Of Service C. If it must remain a Secondary, then restriping to include left turn pockets at the intersection would provide nearly as much capacity as a Major, but would eliminate parking in the vicinity of the intersection. It should be noted that the land use estimates used in the traffic analysis for both the Hidden Springs parcel and the remainder of the Sunnymead parcel to the east are maximums not to be exceeded. It is expected that fewer dwellings will actually be constructed.

Also the State Route 60 Freeway westerly of Pigeon Pass Road will operate above Level of Service C capacity but below Level of Service E. Expansion of the State Route 60 Freeway from four to six lanes will eventually take place, however such expansion is not within CaTrans' current five year plan.

Traffic Signal Warrants

In the Pringle Study, the only traffic signal warrant met on Pigeon Pass Road was Old Lake Road. This intersection coincides with the Hidden Springs's southern access road at Pigeon Pass Road.

The Pigeon Pass Road/Ironwood Avenue intersection meets major street signal volume minimum vehicular warrants, but not minor street volume minimum vehicular warrants. Therefore, the County should monitor this intersection as new development are completed.

It should be noted that signals should be installed only when warranted and that installation of unwarranted signals can increase accident potential, energy consumption, and air pollutant emissions, while costing governmental jurisdictions approximately $200 per month for maintenance and utilities.

C) Impact on Future Traffic Conditions - Annual Growth Rate

In this section, future traffic conditions reflecting an annual growth rate are discussed. All future traffic conditions are for 1994 land use conditions.

Future Daily Traffic Volumes

To account for regional growth on county roadways, future traffic volumes have been calculated based on a 7.3 percent annual growth rate of existing traffic volumes over a 7 year period. Daily traffic volumes which include regional growth for 1994 conditions, and the completion of the project are shown in Figure III-9. This figure also includes traffic volumes to be generated in 1994 by the North Country development as described in the preceeding impact discussion. The 7.3 percent growth rate reflects the growth trends in the

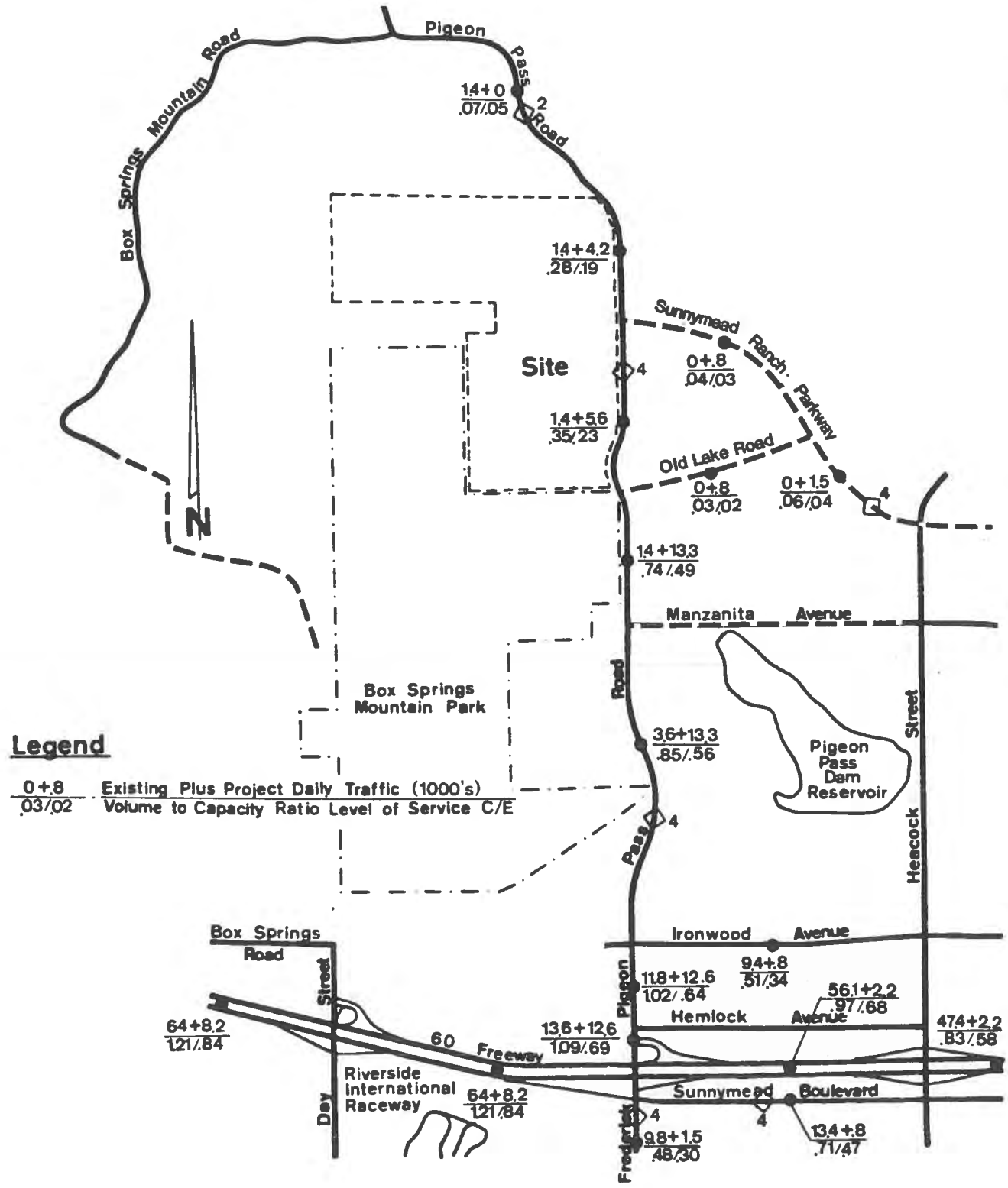


Figure III-9

Future Plus Project Traffic

HIDDEN SPRINGS

By Griffin Homes

22 Falcon Ridge Drive Pomona, Ca., 91766

Source: Kunzman Associates

Sunnymead area between 1976-1980. This information was provided by County staff. The freeway annual growth rate of 4.66 percent was estimated from CalTrans figures.

Future Daily Volume to Capacity Ratios

Based on the ultimate roadways shown on the Circulation Element, daily volume to capacity ratios for Levels of Service C and E conditions have been calculated and are shown in Figure III-9.

As in the "Impact on Future Traffic Conditions - Surrounding Development" section of this report, portions of Pigeon Pass Road between Ironwood and Sunnymead will operate above Level of Service C capacity, but within Level of Service E capacity. The State Route 60 Freeway will operate at or above Level of Service C capacity, but within Level of Service E capacity west of Pigeon Pass Road.

Mitigations - Circulation, Traffic, and Scenic Highways

The following measures are recommended by the traffic engineer, Kunzman Associates to mitigate the impact of the project on traffic circulation:

a. Amend the Circulation Element to provide for the construction of the identified circulation network. Consider amending the Circulation Element to upgrade Pigeon Pass from a Secondary to a Major. Because of Tract Map approvals along Pigeon Pass Road, it may not

be feasible to construct a full Major cross section. If a Major cannot be obtained, the street will operate as a Secondary at better than Level of Service E capacity but worse than Level of Service C capacity. It if must remain as a Secondary, then restriping to include left turn pockets at the intersections would provide nearly as much capacity as a Major, but restriping would require eliminating parking in the vicinity of the intersections.

b. Maintain a high level of service along arterials by restricting parking and controlling roadway access.

c. For existing plus project traffic conditions, northbound left turn lanes at the three project access road intersections with Pigeon Pass Road should be provided.

d. For existing plus project traffic conditions, intersection geometrics as recommended in Table 6 of the Traffic Analysis (Section VI.C of the Technical Appendices) should be implemented.

e. Traffic signals should be installed when warranted at the intersections of Pigeon Pass Road and Westbound State Route 60 Freeway ramps, and Pigeon Pass Road and Lakeview (Old Lake Road).

f. Traffic signals should be implemented as warranted based on the signal warrant volumes shown in Table 3 of the Traffic Analysis (Section VI.C of the Technical Appendices).

g. Construct all streets internal to the project to full ultimate cross-sections as adjacent development occurs.

h. Construct all streets bordering the project to ultimate half-section widths in conjunction with development.

i. Landscape plantings and signs should be limited to 36 inches in height within 25 feet of project driveways to assure good visibility.

j. Install STOP signs at the site egress roadways to adjacent Pigeon Pass Road.

k. Install two-way STOP signs at all four legged intersections internal to the project site and at local streets intersecting the main project collector street.

l. The County of Riverside should monitor the Pigeon Pass Road - Ironwood Avenue intersection for possible future signal installation.

To provide for adequate internal roadway circulation, the Traffic Engineer has also recommended guidelines for the development of the project. These recommendations are included in

their entirety as Section VI., C, Technical Appendixes - Traffic Analysis. Briefly, these mitigations deal with:

1) Internal Design Guidelines for Residential Development

2) Residential Design Guidelines for Fire Safety and Emergency Access.

In regards to project access, there are three access points proposed along Pigeon Pass Road. These access points are evenly distributed along the project site - one in the north, one in the middle and one in the south. The southerly access point is to align with the future Riverside County Circulation Element roadway known as Old Lake Road (Lakeview). Since the southerly or Old Lake Road access meets signal warrants in both the North Country Study and the Hidden Springs Study, aligning this intersection would be beneficial.

In addition, the circulation system proposed by the Hidden Springs Specific plan has been designed in accordance with the county policies for the Moreno Valley Community Policy area as follows:

1) The project implements the County Master Plan of Street and Highways.

2) Heavy through traffic has been eliminated from residential neighborhoods.

3) Pedestrian traffic has been separated from vehicular traffic. As described in Section IV.E. Open Space and Recreation Plan - Trails, a pedestrian trail system is proposed. A five mile community trail system is planned that will provide access through the recreational and residential portions of the project site and to the proposed school site. Off-site trail connections are possible to Sunnymead Ranch to the east and to Box Springs Regional Park to the west. A combination pedestrian/bicycle trail is planned adjacent to the main project collector.

9. Public Facilities and Services

a. Sewers

The Eastern Municipal Water District (EMWD) is responsible for wastewater service in the Sunnymead area. There are presently no sewer facilities on-site and due to the site's undeveloped nature, no sewerage is currently generated.

Existing facilities in the area include a 10-inch sewer main in Heacock Street which is anticipated to serve tracts north of Manzanita Avenue. The EMWD has recently approved improvement plans for Tract 17947 (#D-7164) extending a 15-inch trunk line from the Poorman Reservoir area to Pigeon Pass Road. This northerly extension is capable of serving areas north of its terminus including the project site.

This line will ultimately run to the Sunnymead Regional Water Reclamation Facility (WRF) located approximately eight miles to the southeast of the project site. It currently has an authorized capacity of 3.0 MGD but is operating at 3.75 mgd, according to Mr. Richard Morton of the District's Planning Staff. This is accomplished through increased aeration, faster processing, etc. This facility will be at 5.0 mgd capacity in August 1985 and will be expanded to 10.0 mgd in the near future. Preliminary design work has been done for ultimate plant expansion to 20 MGD which would serve 200,000 - 250,000 persons by year 2020.

Impacts - Sewers

Construction of the Hidden Springs project will create a need for sewer service to the site. EMWD uses a sewage generation factor of 100 gallons per person per day. Based upon projected population of 3,491 (2.58 persons/d.u.) the project will, at build-out, generate an average of .35 million gallons per day.

Since the Sunnymead WRF currently treats 3.75 MGD, the proposed development represents a 9.3% increase to current levels.

As previously indicated, the project site will be served by the approved extension of 15-inch trunk sewer extending north to Pigeon Pass Road. A 12-inch to 15-inch sewer main in or parallel to Pigeon Pass Road will be provided

to connect to 8-inch gravity lines serving the developed portions of the site (See Figure IV-13, Master Sewer Plan).,

The Public Utilities and Services Element of the Comprehensive General Plan sets forth Land Use Standards - Water and Sewer. Adequate facilities can be provided to meet a Category II (Urban) Level of Service, as proposed by Hidden Springs. In addition, Land Use Standards - Water use for Landscaping encourage the use of vegetation which uses less water, and properly designed, installed, operated and maintained drip irrigation systems. Also encouraged is the use of adequately treated wastewater where available, for irrigation of landscaping and man-made lakes and ponds. The project proposal will conform to all applicable Land Use Standards -Water and Sewer where possible.

Mitigations - Sewers

Eastern Municipal Water District currently uses all their effluent for either groundwater recharge or for landscape irrigation.

Annexation fees will be assessed as the needed improvement district(s) are formed. In addition, the District charges a per unit fee for capacity in the sewer treatment plant and its transmission and disposal facilities. The payment of these fees by the developer will prevent any negative financial impacts to the District.

b. Water Supply

The Hidden Springs project site is within the service area of the Eastern Municipal Water District (EMWD). Existing or proposed facilities in the area include a recently-approved 18-inch steel water main on Old Lake Road terminating at Pigeon Pass Road. This line, as shown on improvement plans for Tract 17947 (#D-7164), lies in the Borderson Pressure Zone and, without boosting facilities, is not of current use to the subject property. The project site is situated in the Kalmia Pressure Zone. Improvement plans are also currently being processed for a 12-inch water main to run parallel to the aforementioned 18-inch line which will be in the Kalmia Pressure Zone.

The EMWD is a member of the Metropolitan Water District (MWD) and gets most of its water supply from them. At the present time, the water supplied is Northern California water, which is imported into the Moreno Valley area from the Mills Filtration Plant on Alessandro Boulevard. The EMWD currently provides 20,000 acre-feet of water a year to domestic users. The District presently has no problems meeting the present R-1 required 1000 GPM fire flows.

Impacts - Water Supply

The District uses an average flow rate demand of 200 gallons per person per day. Based on a project population of 3,491 persons (2.58 persons/d.u.) the average flow demand for the

residential portion of the site would be approximately .70 million gallons per day. This represents an approximate 4% increase to the District's present level of residential demand.

The major source of water supply to the site will be from a proposed 12-inch transmission main in Old Lake Road and a 16-inch extension up Pigeon Pass Road. Water distribution will be assisted through provision of a booster station at Pigeon Pass Road just north of Old Lake Road. The booster station will be necessary to provide service beyond the initial 300 dwellings of the Hidden Springs project. The network of 12-inch and 8-inch water mains serving the developed portion of the site will emanate from the 16-inch mains on Pigeon Pass Road. (See Figure IV-14, Master Water Plan).

The relationship of the project's water supply to the Public Facilities and Services Element of the Comprehensive General Plan is discussed under "Impacts-Sewers" above.

Mitigations - Water Supply

A site where future tank storage might be located has been indicated on Figure IV-14, Master Water Plan.

Annexation fees will be assessed for the formation of improvement district(s). In addition, the District charges a per unit fee for service connections and water supply. The

payment of these fees by the developer will prevent any negative financial impacts to the District.

c. Storm Drains, Flood Control

The project site lies within the jurisdiction of the Riverside County Flood Control and Conservation District. The "Master Drainage Plan for the Sunnymead Area" establishes the size and location of flood control and storm drain facilities needed to adequately control surface flow in the area.

As indicated in Section III.C.3., Hydrology, Flooding and Drainage, a major drainage course and associated 100-year floodplain traverse the subject property in a southeasterly direction. This system comes to a confluence south of the subject property. An estimated 2,600 cubic feet per second exit through the site at 100-year storm levels. Since much of the property is part of the North Country Specific Plan, drainage from the site is planned for in the design of downstream flood control facilities.

Impact - Storm Drains, Flood Control

The proposed project will retain major drainage courses on-site as greenbelt paseos to insure preservation in their natural condition. All proposed construction is anticipated to be above the 100-year floodplain level. In addition, there will be a minimum of roadways traversing the natural drainage courses. Runoff from developed portions of the site will

be conveyed through streets and underground drainage pipes as indicated on Figure IV-15, Master Drainage Plan. Off-site flows will be conveyed through the site in a similar fashion.

Major flows which presently empty onto the project site from the east will be intercepted where they currently cross Pigeon Pass Road and will be conveyed through the site utilizing the on-site drainage system.

Mitigation - Storm Drains, Flood Control

The proposed Master Drainage Plan will mitigate all hydrological impacts of project development. All proposed facilities will be constructed in accordance with the standards of the Riverside County Flood Control District.

d. Solid Waste

For solid waste planning purposes, Riverside County has been divided into seventeen well-defined geographic areas. Each area correlates to the service area of an existing publicly-operated sanitary landfill. The project site is within the Badlands Landfill Service Area, according to the Solid Waste Management Plan for Riverside County, (Draft; July 1983).

Regional population forecasts for the Badlands Landfill Service Area per the Solid Waste Management Plan are as follows:

	1980	1985	1990	2000
Badlands Landfill	32,700	80,900	95,400	121,100

The 1,081 acre Badlands Landfill is owned and operated by the County. This facility had an original capacity of 63.86 million cubic yards, with 63.39 million cubic yard capacity remaining. It is estimated that 100 tons of solid waste are disposed of at the site daily. This facility has an estimated closure date of 2018, with an ultimate planned land use of Recreation and Park.

According to correspondence received from David Herold, Waste Disposal Engineer of the County of Riverside Office of Road Commissioner & County Surveyor, the Highgrove Disposal site also serves the Sunnymead area. This facility is located about two miles northwest of the project site, off Pigeon Pass Road. However, a portion of Pigeon Pass Road to the disposal site is unimproved and has steep grades.

The Highgrove site now receives about 260 tons of refuse per day. This will increase to about 600 tons per day within the next nine months, when the City of Riverside Disposal site closes. The added waste loads from growth within its service area and the expansion of its service area as other disposal sites close

results in the projected closure of the Highgrove site about 1992, unless a waste resource recovery plant is constructed. However, if landfill capacity is still required, a transfer station may be developed in the City of Riverside and regional wastes directed to the existing Badlands Landfill.

The Sunny-Edge Disposal Company provides refuse collection services for the project area.

Impacts - Solid Waste

The State standard for solid waste generation is 5 lbs./person/day. Approximately half of this is home related and half is related to individual's commercial needs and activities. As construction of Hidden Springs will generate an estimated population of 3,491 persons (2.58 persons/d.u.) approximately 8.7 tons of solid waste per day would be generated at project build-out. This would increase the amount of solid waste transported to the Badlands and would shorten its lifespan.

Sunny-Edge Disposal has adequate assets to handle the proposed level of growth.

Mitigations - Solid Waste

The project applicant should study the possibility of installing recycling bins on the site for residents' use and convenience. The project applicant should also study the feasibility of including trash compactors as a standard feature in the new homes.

The County Solid Waste Management Plan includes programs for evaluating ways to reduce the quantity of wastes being landfilled. These include source reduction through changes in packaging of products, business and residential separation of recoverables, composting and high technology waste resource recovery. The separation of newspaper, cardboard and other specialized wastes may in the future, be economically feasible.

e) Parks and Recreation

The Riverside County Public Facilities and Services Element of the Comprehensive General Plan sets a standard for regional parks of one developed acre of park per thousand population and 25 acres of natural acreage per thousand population. Development and operation of neighborhood and community parks are not the responsibility of the County. However, the County encourages the formation of local park districts and County service areas, where practical, to provide for neighborhood and community park needs. The project site lies within County Service Area #93 for provision of parks and recreation facilities.

There are presently two local parks within CSA 93 near the project site. Park El Moreno offers a golf course, recreation room, meeting room and CSA 93 office headquarters. The kitchen facility and recreation room are used for a senior citizen nutrition program. Sunny-mead Park offers three ball fields, a BMX Track

for bike racers, a horse arena and a kiddie park. There is also an AYSO soccer program in effect at Sunnymead Park.

Future recreational facilities at the adjacent Sunnymead Ranch (North Country Specific Plan) include three public parks totalling 30 acres (See Figure III-10, Public Facilities) and numerous private recreation facilities, including 42 acres of lakes and a community clubhouse facility. In addition, a natural open space and bicycle and pedestrian circulation network are proposed.

Regional park needs for the project are provided for by the Lake Perris State Recreational Area and the Box Springs Regional Park. As discussed in Section III.13., Existing and Adjacent Land Use, the Box Springs Regional Park is located immediately south and southwest of the project site.

Impacts - Parks and Recreation

Implementation of the Hidden Springs project will create a demand for parks and recreation facilities as well as provide additional park facilities within the project area. As shown on Figure IV-9, Open Space and Recreation Plan, 75.5 acres of undisturbed natural open space will be provided, as well as 80.0 acres of naturalized greenbelt paseos, five miles of trails and 30.0 acres of parks.

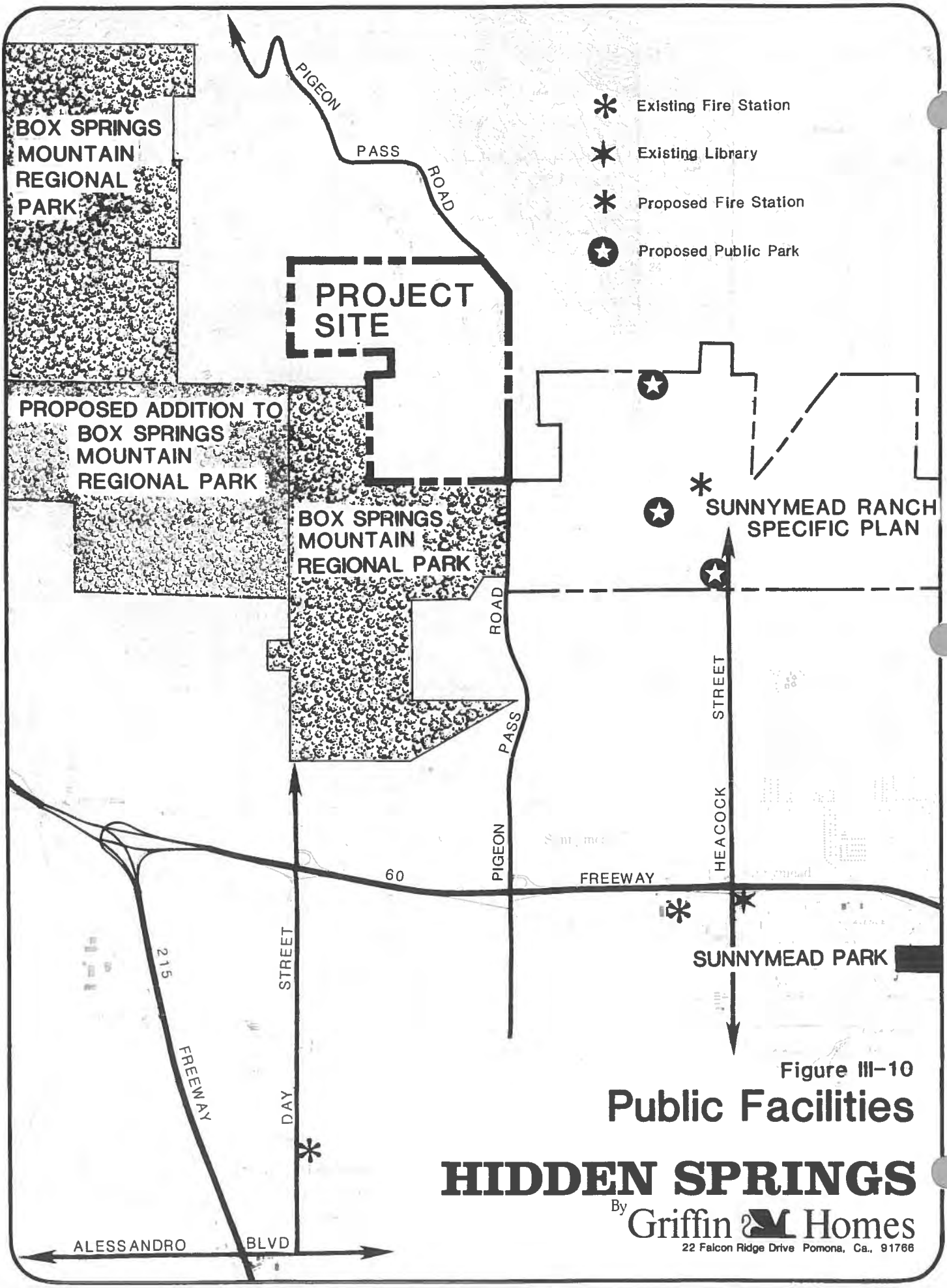


Figure III-10

Public Facilities

HIDDEN SPRINGS

By Griffin Homes

22 Falcon Ridge Drive Pomona, Ca., 91766

The 30.0-acre wooded park encompasses the largest eucalyptus grove on the site and additional eucalyptus trees will be planted along the periphery to provide continuity and shading. Several clearings may be turfed and used for picnicing or other passive uses. This park will be publicly owned and maintained. Five miles of trails are proposed both along the main project collector roadway and throughout the greenbelt paseos. Off-site trail linkages are possible to both Sunnymead Ranch to the east and Box Springs Regional Park to the west. A bicycle/pedestrian trail is proposed to meander adjacent to the main project collector.

When the portion of Sunnymead Ranch (North Country) east of Pigeon Pass Road is considered, 240 out of 1087 acres (22%) are designated for open space uses. When Hidden Springs is added, 418 out of 1570 acres (27%) are designated for open space uses.

The parks and recreation opportunities provided by this Specific Plan as enumerated above are intended to satisfy the neighborhood and community park needs as identified in the "Park and Recreation" section of the "Public Facilities and Services Element" of the Comprehensive General Plan.

In addition, residents of the southern portion Hidden Springs will be included in the Homeowner's Association of the Sunnymead Ranch and will, therefore, have access to the extensive recreational facilities proposed by that project.

Mitigations - Parks and Recreation

Because of the extensive recreation and open space facilities proposed by the Specific Plan, no further mitigation measures are proposed.

f. Fire, Police and Emergency Services

Fire Protection Services

The Public Facilities and Services Element of the Comprehensive General Plan addresses the issue of fire services, with the objective of reducing fire hazards and loss from fire through the promotion of public awareness and enforcement of fire prevention regulations and standards.

Fire protection services to all of Riverside County are provided by 280 career employees who are under contract to the County from the California Department of Forestry.

Two fire stations presently serve the project area. The nearest existing fire station, designated Station 2, is located on Sunnymead Boulevard approximately 500 yards west of Heacock Street. The station is outside of a 5-minute response time and is currently operating at or near the maximum number of calls. The second, Station 6, is located in Edgemont on

Cottonwood Avenue about 500 feet east of Day Street. These locations are shown on Figure III-10, Public Facilities.

Station 2 contains 4,791 square feet, of which 2,071 are used for offices and quarters and 2,720 are used for storage and to house a 1,000 GPM pumper, a wildland brush engine and a fire rescue squad vehicle.

Station 6 has a total of 1,752 square feet. Offices and quarters occupy 661 square feet, while the remaining 1,091 square feet house a 1200 GPM pumper, a 750 GPM pumper, a fire rescue squad vehicle, as well as storage space.

The County is currently developing a Fire Service Master Plan which should be completed by early 1985, according to the Public Facilities Plan for the Moreno Valley, including the Communities of Sunnymead and Edgemont (March 1983).

The Public Facilities Plan recommends that no new fire station facilities be built with currently-identified sources of revenue until the Fire Service Master Plan is adopted. If consistent with the adopted Fire Service Master Plan, the Public Facilities Plan recommends the following stations be built in the area of the site:

- In the vicinity of Perris Blvd. and Ironwood Ave., permitting the closure of Fire Station #2 on Sunnymead Blvd.

The North Country Development, located north of Manzanita Ave. and west of Perris Blvd. proposes to construct a one-acre fire station at the intersection of Sunnymead Ranch Parkway (North Country Blvd.) and Lake Vista Rd., to be dedicated to the County of Riverside. This station will also be equipped with a paramedic unit. A temporary fire station may be constructed at a different location to serve initial phases of project development.

Impacts - Fire Protection Services

Implementation of the Hidden Springs Specific Plan will create a need for fire protection services.

According to Ted Pfeiffer, Fire Protection Analyst and Battalion Chief, one engine company is needed to serve each 2,000 dwelling units constructed. (An engine company consists of a fire engine and up to six people to run it). Therefore, construction of the 1350 units proposed by this project will incrementally increase the need for an additional fire station.

Mitigations - Fire Protection Services

The Public Facilities and Services Element of the Comprehensive General Plan sets forth Land Use Standards - Fire Response Times, stating that projects shall have a fire response time of five minutes or less, or provide additional fire protection mitigation measures to the satisfaction of the County Fire Department.

Cooperation between the project applicant and the County Fire Department will insure that the applicable standards of the Comprehensive General Plan relative to fire protection are met.

It will be necessary for the project applicant to work with the County of Riverside Fire Department in order to insure the adequacy of the location and size of the County's presently proposed fire station sites. It is anticipated that the station proposed at the adjacent North Country development will meet the County's five-minute response time standard for the Hidden Springs site.

A fee of $600 per unit is assessed by the Public Facilities Plan for the Moreno Valley to fund public facilities in the area. A portion of this fee will be allocated to the Fire Department to cover the costs of constructing the needed fire stations in the area.

The Hidden Springs site is within a "hazardous high fire area" as shown on the County of Riverside Hazardous Fire Areas Map of the Public Facilities and Services Element. All buildings must conform to the special building requirements in Riverside County Ordinance 457 and/or 546, according to Michael Gray, Planning Officer, of the Riverside County Fire Department. The major requirement of these ordinances is for Fire Retardant Roofing. In addition, due to the project's location adjacent to Box Springs Mountain Park, the Fire Department recommends a fire break, consisting of a 6'

cement block wall along any property lines between the rear of the lots and the park.

Measures to reduce the potential for fire occurring within the project area include:

- Mesh covered chimneys, allowing only a 1/2" opening
- Clearing all native vegetation within 30' of developed areas.
- No wood shake shingles on roofs.
- 350' hydrant spacing and at each intersection
- Sizing of water mains to 2500 GPM with an actual flow of 1000 GPM in single-family areas.

Police Protection Services

The Public Facilities and Services Element of the Comprehensive General Plan addresses the issue of sheriff services, with the objective of utilizing the principles of Crime Prevention through security design and encourage the use of Neighborhood Watch Programs to increase security in residential, commercial and industrial areas in Riverside County.

The site lies within the patrol area of the Riverside County Sheriff Department-Riverside Station. This sheriff's facility if located approximately 9 miles from the project site and is staffed with approximately 120 field personnel. The anticipated response time to the site is estimated at 30 minutes, although

average response times are usually lower. The Sheriff Department attempts to maintain a ratio of one field officer for each 4,000 citizens.

Impacts - Police Protection Services

Hidden Springs will introduce approximately 3,491 persons (2.58 per d.u.) to the Sunnymead area over the next twenty years. This will ultimately create a demand for approximately one new officer to respond to the increase in urban crimes associated with the project.

The Public Facilities and Services Element of the Comprehensive General Plan sets forth Land Use Standards - Police Protection and Facilities Adequacy as follows: The design of Category II (Urban) projects will be reviewed for adequate safeguards for crime prevention. The proposed project will, therefore, be subject to this review.

Mitigations - Police Protection Services

The project applicant will cooperate with the Sheriff's Department to insure that adequate police protection is provided.

It is recommended that street lights be included in the proposed project, that street patterns be design to slow traffic in residential areas and that high grade security hardware be considered in construction. In addition, other design measures that should be considered include: design for "defensible

space" in areas of high use; garages rather than carports, where feasible; proper lighting in open areas, adequate off-street parking, windows placed well away from doors and the use of deadbolt locks.

Emergency Services

The Moreno Valley area is served by five regional hospitals, the largest of which is Riverside Community Hospital in Riverside with 380 beds located approximately 9 miles from the project site. The others are Riverside General Hospital in Riverside (310 beds) approximately 12 miles from the site, Parkview Community Hospital in Arlington (110 beds) about 13 miles from the site, Christian Hospital in Perris (36 beds), and March Air Force Base Hospital.

Goodhew Ambulance Service maintains one ambulance unit on Sunnymead Blvd. adjacent to the County Fire Station. The unit is manned by paramedics and equipped as a paramedic ambulance.

Impacts - Emergency Services

The proposed Hidden Springs will generate an estimated 3,491 persons (2.58 persons/d.u.). Based on a formula of 4 beds per 1,000 people, approximately 14 beds would be required to serve the hospital needs of the future population of the project. It can, therefore, be projected that additional medical facilities will not be required to serve this proposed development.

Goodhew Ambulance is currently available to handle emergency medical problems and would have the capacity to serve the proposed project. At such time that an increase in population in the area warrants, ambulance service would be expanded.

Mitigations - Emergency Services

The possible expansion of ambulance service in the project vicinity should satisfactorily mitigate any project-related adverse impacts.

g. Local Utilities, Easements

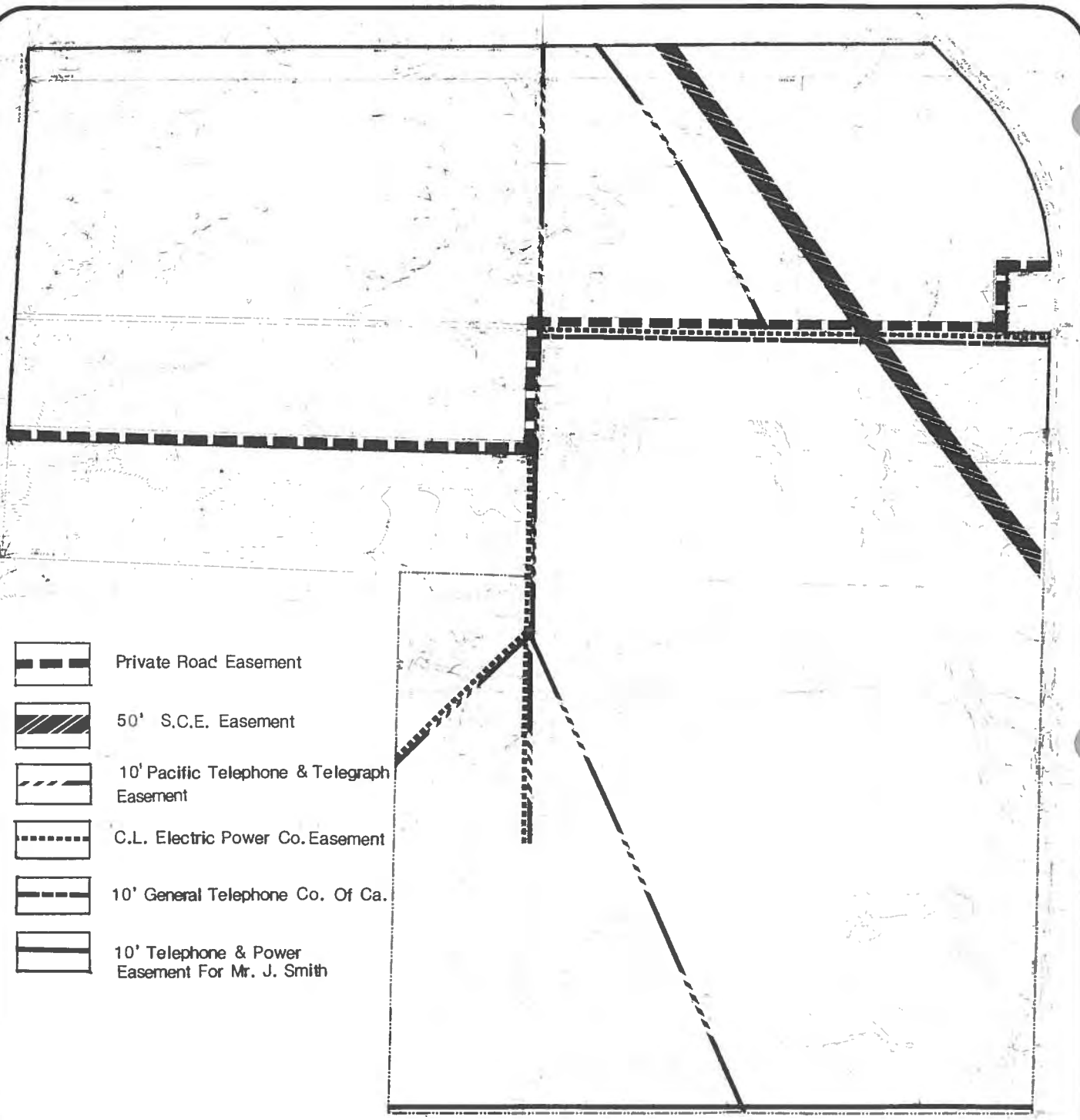
The Southern California Edison Company provides electrical service to the project area. As shown on Figure III-11, Easements, they have two 12 Kv overhead transmission lines which meet in the southwestern portion of the site.

The Southern California Gas Company provides natural gas to the project area. They presently have no gas mains within the project boundaries.

Figure III-11, Easements, also shows the location of a S.C.E. easement and a road easement.

Impacts - Local Utilities, Easements

The Southern California Edison Company has indicated to the project engineers their ability to provide electrical service to the Hidden Springs.



III-11

Easements

TURRINI and BRINK
1920 E 17th St Suite 200
Santa Ana, Calif 92701
Phone (714) 835-1691

north 0 187 375 750

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The South Coast Air Quality Management District (SCAQMD) has published the Air Quality Handbook for Environmental Impact Reports (December 1983). Utilizing annual energy usage factors presented in the document, the following estimated amount of electrical energy will be required to serve the Hidden Springs at build-out:

5,838 Kwh x 1350 dwelling units = 7,899,000 Kwh per year

Additional amounts of electricity will be required to serve the school and public park. However, these calculations cannot be performed until more detailed site plans, including square footage, are available.

The Southern California Gas Company has also indicated to the project engineers their ability to serve the proposed development.

Based upon the average monthly consumption of natural gas factors presented in the SCAQMD's Air Quality Handbook for EIR's, the Hidden Springs project, at build-out, can be anticipated to generate a demand for natural gas, as follows.

1350 s.f. units x 6,665 cubic feet = 9,017,700 cubic feet

Mitigations - Local Utilities, Easements

In order to insure adequate supply of electricity and natural gas to Hidden Springs, the project applicant will provide the Southern California Edison and Southern California Gas

Companies with detailed project plans and phasing information as soon as possible.

A number of energy-saving features could be incorporated into the project design, as described in Section IV.A., Project Design - Impacts.

h. Schools

The project site is within the Moreno Valley Unified School District, which serves grades K-12. In April, 1984, there were 5,284 elementary students (K-5), 2,309 middle school students (6-8) and 2,368 high school students (9-12), for a total of 9,961 students. This student population is served by seven elementary schools, one middle school, one high school and one continuation high school. Two additional elementary schools are planned to be open by the fall of 1984. The District also has agreements for six more sites that will probably be developed as either elementary or middle schools. Existing and proposed school sites in the vicinity of the project site are shown on Figure III-12.

Impacts - Schools

Implementation of the Hidden Springs Specific Plan, with its 1350 single family units will generate a student population, as follows:

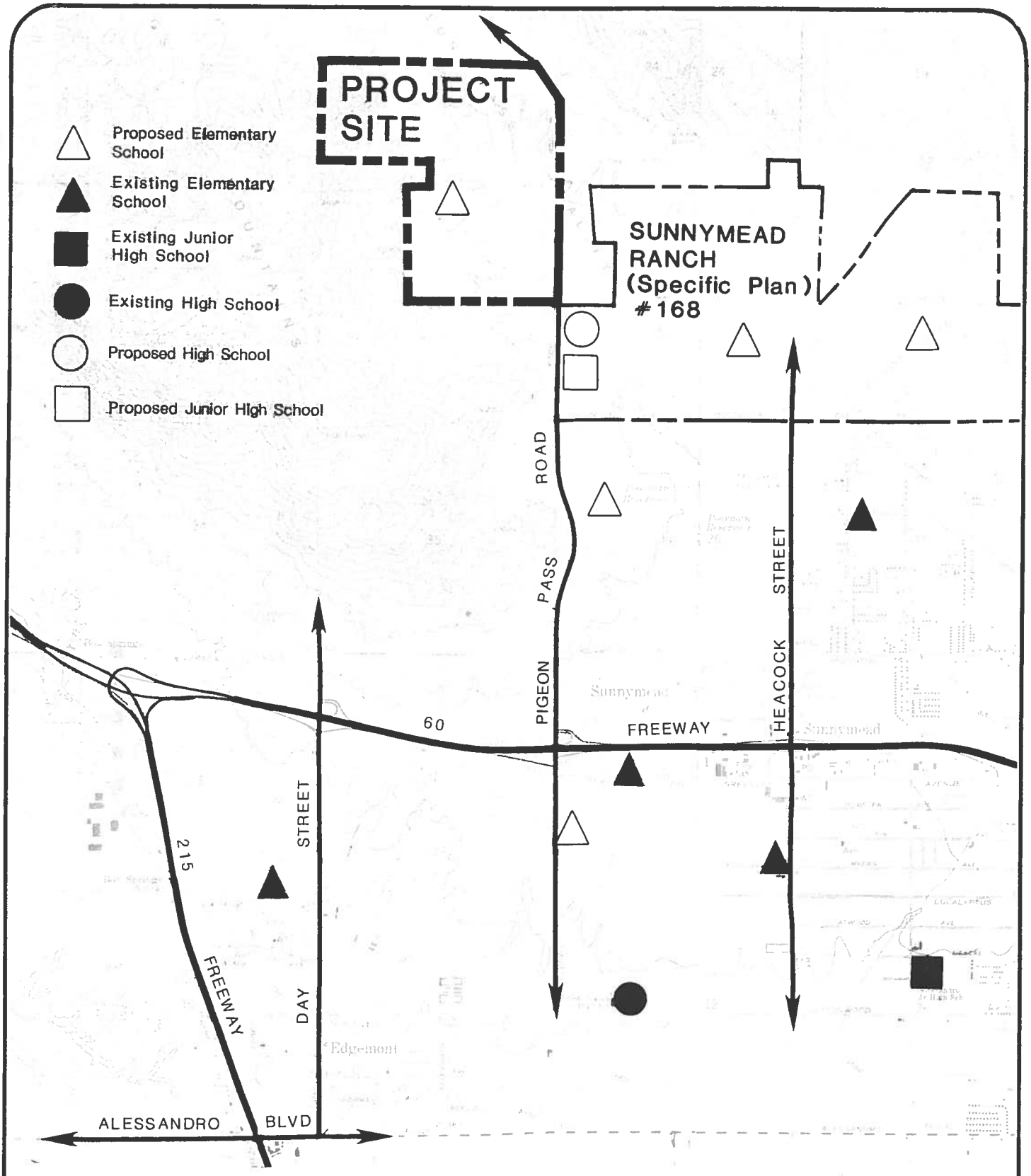

Figure III-12
Schools

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Grade	Generation Factor	x	Dwelling Units	=	Students
K-5	.34		1350		460
6-8	.15		1350		203
9-12	.15		1350		203
Total	.64		1350		866

As shown on Figure IV-6, Land Use Plan, a 6.8 acre elementary school site is centrally located within the project. The school would serve not only this project, but surrounding residential neighborhoods as well, particularly the adjacent North Country development. The southern 279 acres of the Hidden Springs site were formerly part of the North Country Specific Plan. Three school sites were selected by the School District within the boundaries of the North Country development at that time.

One of these, an elementary school site, falls within the boundaries of the current Hidden Springs project. This site has, therefore, been incorporated into the project development plans and is considered by the District to be adequate to serve the North Country student population, as needed, as well as students of Hidden Springs.

Mitigations - Schools

The provision of a 6.8-acre elementary school site is intended to mitigate impacts to schools. In addition to the site, it is likely that the District will require the payment of development fees on a per unit basis to offset any negative fiscal impacts to the District.

10. Aesthetics, Visual Analysis

Existing Conditions

The Hidden Springs site is presently undeveloped open space, containing a few abandoned home sites and dirt access road. There are also approximately 134 acres of barley, a dryland crop, under cultivation on the flatter portions of the site.

The site is situated in the western portion of Pigeon Pass Valley, between Pigeon Pass Road and the easterly side of the Box Springs Mountains. Within the elevated, rugged northwestern corner of the site are exposed slopes composed of granitic rock and boulders of the Box Springs Mountains. Figure 111-2, Elevation Analysis depicts the location of this elevated area.

A natural drainage course traverses the site as a north-south arroyo. (See Figure III-4, Hydrology.) Several tributary washes feed the arroyo from the west and east. This drainage course exits the site under Pigeon Pass Road near the southeastern corner

of the site. Vegetative cover on the site is mostly disturbed grassland with a limited amount of coastal sage scrub occurring around rock outcropping, and on the steep slopes in the western portion of the northern parcel. Significant stands of Eucalyptus trees are found adjacent to the sandy wash in the north central portions of the site. Two small stands of riparian vegetation are also growing on-site. (See Figure 111-5, Biology, for location of these natural features).

Off-site, views include the rugged hills of Box Springs Mountains to the west and northwest. Due north, up the Pigeon Pass Valley, can be seen scattered low density housing. The project site is bordered on the east by Pigeon Pass Road. To the east and southeast of this road can be seen the Sunnymead Ranch. Though presently undeveloped, that portion nearest to Hidden Springs is proposed for single-family detached housing and park land, and junior and senior high schools.

Impacts - Aesthetics, Visual Analysis

Implementation of the Hidden Springs Specific Plan will permanently alter the nature and appearance of the site. A visual transition will occur from the rural ambience offered by open space areas and agricultural uses to residential and recreational land uses. (See Figure IV-6 Land Use Plan).

Grading will be required, as shown in Figure IV-12, Conceptual Grading Plan and as discussed in Section III. I., Landform/Topography. The specific

plan proposes to construct 1350 single family units on approximately 277 acres, resulting in an average density of 4.9 d.u./acre. The remaining 206 acres of the property (with the exception of 6.8 acre school site) will be devoted to open space, providing visual relief to the developed components of project. The open space system includes 75.5 acres of natural undisturbed open space on the northern and western periphery of the site, preserving the steeper, more rugged features of the site, and also the significant natural vegetative communities of the site. (See Figure IV-9, Open Space and Recreation Plan). Also proposed are 80.0 acres of natural greenbelt paseos and a 30.0-acre wooded park.

The significant Eucalyptus stands on the site will be retained as open space, with additional trees planted to create a feeling of continuity throughout open space, picnic and park areas.

Section IV.,A., Project Design describes in depth the various design elements of the proposed Hidden Springs and the visual environment that is intended to be created. Briefly, these design elements, which were developed to create a distinct, desirable and self-contained community, include neighborhood and community entries, landscaping, visual transitions between differing uses, signage, paving, lighting, and architectural standards.

Adjacent homes (both existing and future) will ultimately view an urban setting which incorporates natural greenbelt paseos on the project site rather than expanses of open space as is now the case.

Mitigations - Aesthetics, Visual Analysis

The conversion of the property from open space to urbanized uses is an impact which cannot be entirely mitigated; however, the specific plan attempts to alleviate the degree of impact. Primary mitigation will be the retention of open space in the form of natural open space, parks, naturalized paseo greenbelts, slopes, natural drainage courses, and a pedestrian trail system.

Because each phase of construction is balanced, areas outside of each phase need not be graded until the time of construction, reducing visual impacts. The applicant intends that the proposed development complement the natural character of the area. Grading responds to the valley/plateau land form of the site, and will maintain the natural topographic profile where possible (See Section III, I, Landform/Topography). Manufactured slopes adjacent to greenbelt paseos will be contoured so that they conform to the natural shape of the land. Few slopes over 20 feet in height are created. No significant recontouring is proposed. Also, approximately 76 acres of hillside will remain in a natural state, minimizing not only aesthetic impacts but biological and landform impacts as well.

As noted under Impacts - Aesthetics, Visual Analysis, the overall design concepts allowed by the utilization of this large scale Specific Plan are intended to mitigate aesthetic and visual impacts.

11. Energy

Existing Conditions

No significant amount of water, sewer, natural gas or electricity service is currently provided on the project site. The strain upon energy and natural resources is considered negligible at this time.

Impacts - Energy

Development of the Hidden Springs will entail energy consumption during construction. Once constructed, it is anticipated that inhabitants will require water and sewer service, provided through on-site facilities from the Eastern Municipal Water District, natural gas service from Southern California Gas, and electricity service from the Southern California Edison Co. Therefore, there will be an increased demand upon existing energy resources. This demand is quantified in Section III.C. 9., Public Facilities and Services. As noted, increased demand for water, sewer, natural gas and electricity service will require extension or improvement of lines along major servicing routes in the project vicinity and construction of reservoir and sewage treatment facilities to provide adequate service to the project site. Increased requirements for public utilities and services by project residents will permanently commit these resources.

In addition to consuming energy resources, development of Hidden Springs as proposed by the Specific Plan will represent a semi-permanent commitment of land, physically altering the existing open space to create access roads, home sites, recreational,

commercial and industrial areas and related support facilities connected with urban use. The human environment will be altered as a consequence of development, as implementation of the project will continue the current trend toward urbanization in the project vicinity. Portions of the site will be graded to accommodate the proposed uses and roads, and infrastructure will be required. Therefore, a large percentage of existing open space on the site will be eliminated.

In addition to the factors cited above, new building materials resources will be irretrievably committed during the project construction. These materials include lumber, sand and gravel. As development occurs, additional resources will be used as necessary. The energy consumed in developing and maintaining the site for urban uses may be considered a permanent investment.

Mitigations - Energy

Implementation of the proposed project will increase pressure on energy resources in the project area. Energy conservation literature in published by utility and service companies and is automatically available to new homeowners upon connection of service. Also, a number of features have been incorporated into the site design, which will reduce the demand for energy.

The following recommendations include steps the applicant may take in building design and action residents may take after occupancy to assure

minimal consumption of energy. For specific information regarding project consumption of electricity, gas, water and sewer services, please refer to Section III.C.9., Public Facilities and Services. While the following discussion includes a wide range of energy conservation measure available, specific techniques planned are outlines in the Specific Plan.

Building Design

Design of the residential units should include consideration of the following energy conservation measures:

a. All applicable State Code requirements as related to insulation, heat loss, ratios of glass to walls and other applicable standards should be adhered to in design and implementation of the project.

b. The applicant should comply with pertinent standards required in the Energy Design Manual for Residential Buildings and the Energy Design Manual for Non-Residential Buildings, both effective in July, 1978, and distributed by the Energy Commission of the State of California.

c. Installation of thermal insulation in walls and ceilings should meet or exceed the standards established by the State of California Department of Building and Safety.

d. The applicant should comply with the State of California Housing and Community Development Commission insulation standards, including

standards for building materials, heating and cooling systems, glazing the area, weather stripping and installation materials.

e. The applicant should consider construction of balanced electric-natural gas homes, instead of "all-electric homes".

f. Water and sewage systems should be designed to utilize gravity flow to the greatest degree possible and, therefore, minimize energy necessary for pumping.

g. The utilization of solar energy and waste heat recovery should be encouraged wherever feasible. Of particular merit and currently available are solar heaters for swimming pools.

Solar energy systems can be incorporated into building design in a number of ways. Large window openings can be located on the south side of structures, with small windows built on the north side, to maximize the amount of solar heat absorbed and heat retained in winter. Movable shutters and awnings or fixed overhangs can be used to minimize excess solar radiation in summer, and heavy construction materials, such as brick, concrete, or stone can provide the thermal mass to absorb heat during the day and release heat slowly at night.

h. Measures for non-mechanical ventilation of structures should be detailed at the time for site plan review and provided at the time for construction.

i. Street, parkway, recreational and walkway lighting should be selected and situated with regard to minimizing energy consumption.

Water Use

The unnecessary use of water wastes energy. Energy is required to pump water to service areas. Energy waste is compounded when the water being wasted is heated water. The most significant water savings can be achieved at the consumer level, and future consumers should be encouraged to conserve. However, there are several energy-conservation techniques which could be incorporated by the developer to minimize water use. They are listed as follows:

a. Toilets with low volume holding tanks should be utilized throughout the project, as per California State requirements.

b. Low-flow shower heads should be considered.

c. Solar assisted water-heating possibilities should be investigated.

d. Efficient landscape irrigation systems should be developed, minimizing excess runoff and watering of streets and sidewalks.

e. Plant varieties should be selected that are drought-tolerant, to reduce requirements for irrigation.

f. Reclaimed water should be utilized wherever economically feasible.

Energy Use

The most effective measure for conserving energy take place at the consumer level within the home, at the office and other places of business. A primary roadblock in achieving energy conservation is that consumers are unaware of the importance of energy conservation and what they can do to converse energy. Future residents could best be educated by public agencies and utility companies distributing information on conservation techniques.

It is anticipated that the project circulation plan will be sited, oriented and designed to minimize energy consumption. Roads forming the project circulation plan will be located and designed to assure smooth and efficient traffic flow, and it is anticipated that signals installed to control on-site traffic will be regulated to limit car idling time to reduce fuel consumption, where feasible.

Protection of Natural Resources

While the demand for and consumption of energy and natural resources will be increased with development of the project site as proposed, the project will increase the local housing inventory and provide additional opportunities for open space recreation. Provision of 75.5 acres of permanent natural open space offered by the proposed project will provide scenic and beneficial natural resources on-site. Project residents may consider

implementing a recycling (solid waste recovery) project that would further conserve resources.

12. Existing and Adjacent Land Uses, Regional Considerations

On-Site Land Use

The 483-acre site is presently undeveloped and supports approximately 134 acres of barley production, with an average annual yield of 268,000 pounds of barley and a gross revenue of $20,500. (See Section III. C.2., Geology, Seismicity, Soils, Agriculture, for additional information on the agricultural capabilities of the site.) The site has been used in the past for sheep grazing. As discussed in Section III.C.6., Cultural, Historical Resources, a recent, historic adobe structure exists in the southern portion of the site. The structure appears to have been constructed during the 1930's and has a concrete foundation, electric conduct and water pipes.

In addition to the "adobe" structure the remains of two other recent non-historical structures also exist on-site. Within those areas of the site accessible by dirt road, unauthorized dumping of trash occurs, including tires, furniture, truck and car pieces, etc.

On-Site Zoning and General Plan Description

The southern 279 acres of the 483-acre Hidden Springs are within the boundaries of the 1,366 acre North Country Specific Plan No. 168 approved in August 1982. These 279 acres, referred to as

"Westslope" in the North Country Specific Plan, were approved for 400 dwelling units clustered on 62 acres and a nine acre elementary school site. The remaining 208 acres were approved for open space, with 129 acres of that open space devoted to alfalfa production. Figure III-13 depicts zoning designations associated with the proposed uses.

The remaining 204 acres of the Griffin project site are zoned R-A-2 1/2, Residential Agricultural, with a 2-1/2 acre minimum lot size. This zoning designation would allow construction of 82 single family residences.

The project site is shown as an "Area Not Designed as Open Space" on the County's Open Space and Conservation Map. Additional discussion of the site's relationship to the General Plan is found throughout Section III of this Specific Plan/EIR.

Surrounding Land Use and Zoning

The Hidden Springs site is within the rapidly growing Moreno Valley, which includes the communities of Sunnymead, Edgemont and Moreno. The Moreno Valley has experienced extremely rapid urban growth between 1950 and 1980, with a 245% population increase. The property lies at the northerly edge of the community of Sunnymead, which generally extends from March Air Force Base on the south to the foothills of Reche Peak and from the Box Springs Mountains on the north and west to the community of Moreno on the east.

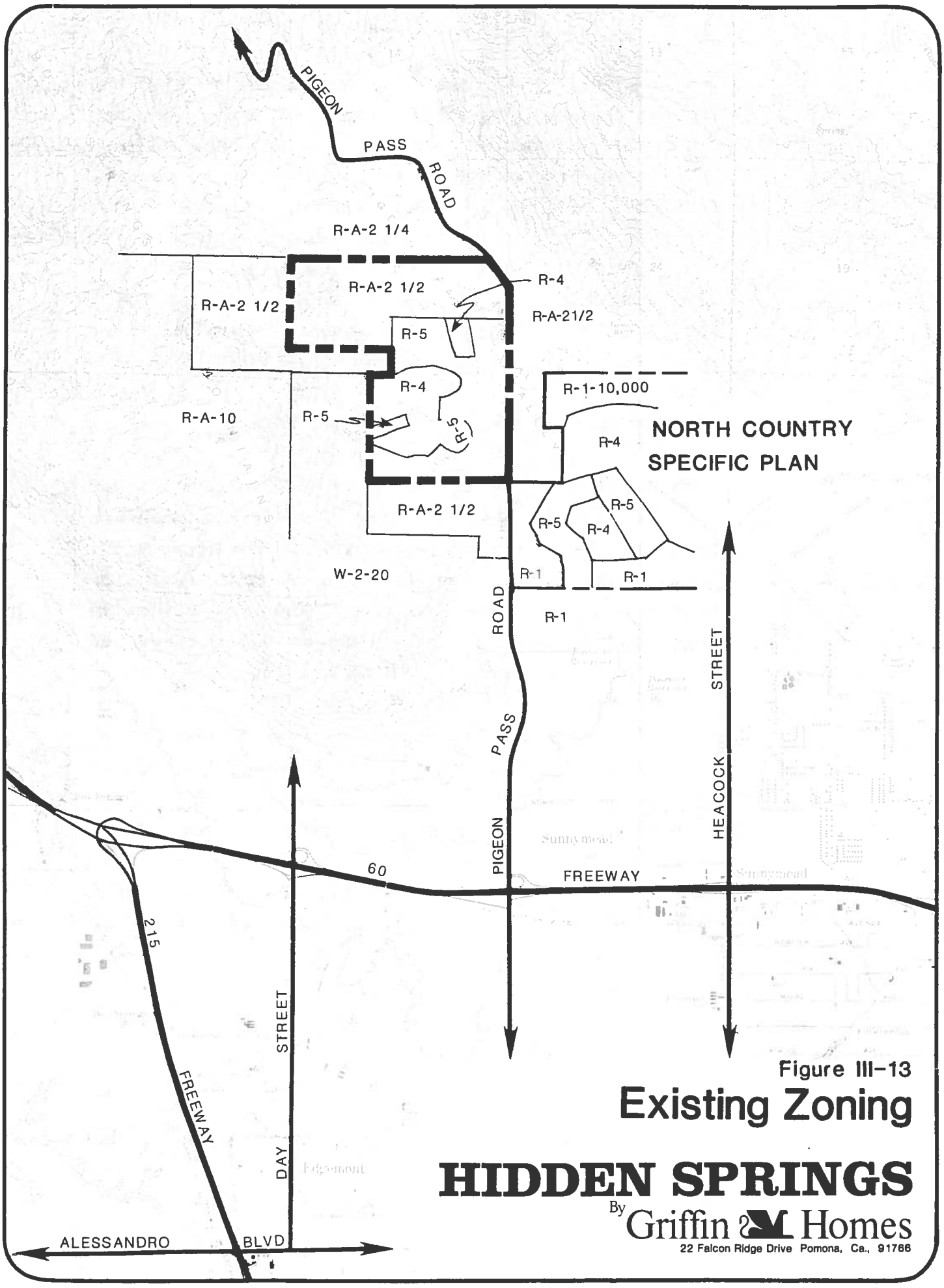

Figure III-13

Existing Zoning

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The project site itself is bordered by the Box Springs Regional Mountain Park on the south and southwest. Proposed additions to the Box Springs Park also lie to the west. The North Country Specific Plan known as Sunnymead Ranch lies to the southeast, while existing low density estate lots, ranging in size from one to five acres, are found to the north and northeast along Pigeon Pass Road, (see Figure 11-2 Area Development Trends). These land uses are discussed below:

a) Box Springs Mountain Regional Park

Located to the south and southwest of the Hidden Springs site is the 2500-acre Box Springs Mountain Regional Park (See Figure II-1, Vicinity Map). This County-owned park is an open space wildlife preserve and is shown on the "County of Riverside Parks and Recreation Areas" Map as being traversed by secondary riding and hiking trails.

According to Mr. Richard E. Simons, Director of the Riverside County Parks Department, the County has plans for an equestrian staging area with campground facilities to be located off of Pigeon Pass Road, near the project site's southern boundary. The implementation of this campground/staging area has not yet been scheduled by the County.

b) North Country Specific Plan

The North Country Specific Plan No. 168 which includes the Griffin site, covers 1,366 acres of public facilities, 438 acres of community open

space and 245 acre Special Planning Area. Approved zoning for the North Country Specific Plan is shown on Figure 111-13, Existing Zoning. Phase I of this project, now referred to as Sunnymead Ranch is presently under construction. Under construction are 404 single family units (7,200 square foot lots). Located in the southeast corner of the site, these lots take access off of Perris Blvd.

c) Low Density Estate Lots

Low Density Estate Lots, taking access off of Pigeon Pass Road, are located north of the project site. The residences, as well as other undeveloped property, are within a topographically varied area which restricts zoning and unit density. Some equestrian lots are also found. Figure III-13, Existing Zoning depicts the zoning in this area, which includes R-A-2 1/2 and R-A- 2 1/4.

Along the northeastern project boundary, a single family residence exists which serves as a convent. (See Figure IV-6, Land Use Plan for location of convent. Labeled N.A.P., it is the notch within the open space area at the northeastern boundary.)

Regional Considerations

In analyzing the Hidden Springs project, its "regional" setting includes the communities of Sunnymead, Edgemont and Moreno Valley. Although the project site falls within the Riverside Corona/Norco Regional Statistical Area (RSA 46.2), it is more influenced by and more a part of the growth affecting the Edgemont/Sunnymead RSA (46.1). A portion of the project site is also part of the area recently

incorporated as the City of Moreno Valley (See Sections II.C.4 and III.C.13 for further details).

The Sunnymead area has experienced tremendous growth during the 1970's and early 1980's as a result of demand pressures from the Los Angeles and Orange County areas for affordable single family detached housing. Initially, significant growth occurred in the close-in locations of Corona, Norco and the City of Riverside. Growth restrictive measures were passed in some of these areas in efforts to preserve their rural atmospheres. These growth restrictions, coupled with low land costs and inexpensive housing prices have created the current demand for housing in the Sunnymead area.

The following discussion of regional land use issues in the Sunnymead-Edgemont area focuses on: a) Population; b) Future Development; c) Commercial services; d) Employment; and e) Transportation.

a) Population

The 1980 Federal census put the population of Riverside County, including incorporated and unincorporated areas, at 663,923. According to California Department of Finance estimates, the January 1, 1983 population of the County was 731,173. This represented a 60% increase over the 1970 population of 456,914. This was the highest percentage growth rate among counties in the region. The County's population is forecast to reach 889,500 by 1988.

Table III-11, Regional Population Forecasts, indicates population forecasts in five-year increments to the year 2000. (Source: Riverside County Comprehensive General Plan; March 6, 1984).

According to the County's Comprehensive General Plan, RSA population forecasts are not population ceilings that will not change. Actual growth will be monitored and compared with the forecasts. If major growth trends change, these changes can be reflected through the formal SCAG updates of these forecasts.

TABLE III-11

REGIONAL POPULATION FORECASTS

Regional Statistical Area		Regional Population Forecast				
		1980*	1985	1990	1995	2000
46.1-Edgemont/ Sunnymead	Population	28,800	48,000	66,000	85,000	102,000
	Housing	9,640	18,000	26,000	33,000	40,000
46.2 Riverside/ Corona/Norco (Unincorporated areas)	Population	14,300	15,000	16,000	16,950	17,900
	Housing	4,800	5,000	5,600	6,200	6,600

*Existing population from 1980 Federal Census

b) Future Development

A relatively large amount of development activity has been proposed and/or approved for implementation within the Sunnymead-Edgemont area. Growth in the area of Hidden Springs is depicted on Figure II-2, Area Development Trends.

Table III-12, Proposed Development Summary Sunnymead presents information on potential future development in the Sunnymead area. Section V.A., Cumulative Impacts, provides more detailed information on these proposed developments.

TABLE III-12

PROPOSED DEVELOPMENT SUMMARY

SUNNYMEAD

(AS OF OCTOBER 1983)

Under Construction	
Units	1975
Developments	11
Final Approval	
Units	3576
Developments	5
Tentative Approval	
Units	8806
Developments	75

Planning	
Units	1843
Developments	32
Total	
Units	16200
Developments	123

Source: Moreno Valley Ranch Specific Plan/EIR

As of September 1983, three specific plans had been adopted in the Riverside/Corona/Norco Planning Area, which could result in the development of 2,889 units and small amounts of commercial and recreational land uses. None of these have been developed. Only one of these is in the near vicinity of the Hidden Springs site - Specific Plan 143, Ironwood Estates adopted on March 10, 1981. It is located north of Highway 60, between Day Street and Pigeon Pass Road, covers 197 acres and allows development of 591 units densities ranging from one unit per acre for detached units to twenty units per acre for apartments are allowed. The Specific Plan also allows 6.4 acres of commercial use and two acres of institutional uses in the southeastern corner of the Specific Plan Area.

c) Commercial Services

The Sunnymead area has long suffered from a lack of commercial services. However, during the last three years, neighborhood strip commercial centers have been developed throughout the area. The closest proposed local shopping is located in

Sunnymead Ranch at the corner of Sunnymead Ranch Parkway and Old Lake Road about 1/2 mile east of the project site. In addition, a regional shopping center known as "The Springs" is proposed at the southeast corner of the intersection of the 215 freeway and Highway 60. Development of "The Springs" is projected to begin in early 1985.

d) Employment

Employment in Sunnymead is related to local services and March Air Force Base which creates 1400 civilian jobs in addition to 4000 air force personnel stationed at the base each year. The majority of the population currently commutes to major employment centers in San Bernardino, Orange, Riverside and Los Angeles County. However, the employment base of the area is expected to increase significantly in the near future. The City of Riverside recently approved an industrial plan for an area northwest of March Air Force Base. The County has also approved industrial zoning on 2,000-acres south of the base.

Given an economic recovery in 1984-1985, employment growth in Riverside County is forecast to grow at a strong 5.0% annual rate through 1988. This will generate an increase of 56,752 new jobs, resulting in an increase in total employment from 205,413 in 1982 to 262,165 in 1987.

e) Transportation

The Riverside County Master Plan of Highways, shown on Figure III-6, depicts the general location and extent of existing and proposed transportation

routes and facilities including secondary, major and arterial highways, expressways, freeways, specific plan roads and bridges. According to the Comprehensive General Plan (March, 1984), the current highway network is generally adequate to meet present travel needs. In addition, the Master Plan of Highways was developed in conjunction with the Land Use Element to ensure adequate circulation for future development of proposed land uses. A more detailed discussion of existing and future traffic conditions is found in Section III.C.8, Circulation, Traffic, Scenic Highways.

Consumer research indicates that 35% of heads of household in the Edgemont/Sunnymead area commute to jobs outside Riverside County (13% to L.A. CO., 12% to Orange Co., 9.4% to San Bernardino and 3.5% to "Other".) Therefore, an efficient transportation system is required. Caltrans is currently improving Interstate 215 from a four-lane roadway to a freeway. The freeway now exists from the Ramona Expressway south. Interchanges also exist at Ramona Expressway and at Van Buren.

Impacts - Existing and Adjacent Land Uses, Regional Considerations

On-Site Land Uses

Implementation of the Hidden Springs Specific Plan would permanently alter the nature of on-site land uses. Those uses depicted on Figure IV-6, Land Use Plan, would replace the site's present agricultural and open space uses. This would result in the loss of 134 acres of land from barley production, representing county-wide decrease of 0.9%.

Most of the significant on-site open space features of the site will be preserved in the 75.5 acres of natural undisturbed open space in the northwestern portion of the site, encompassing the Box Springs Mountains. In addition, the project will provide 80.0 acres of naturalized greenbelt paseos, five miles of trails and 30.0 acres of wooded park. This park encompasses the largest eucalyptus grove on the site. Additional eucalyptus trees will be planted along the periphery of the site to provide continuity and shading. Picnicing or other passive uses are being considered. This park will be publicly owned and maintained, thereby increasing recreational opportunities for the entire community.

Accompanying the proposed urban uses will be a number of associated impacts, such as increased traffic, air pollutants, noise, increased demand for utilities and public services, etc. These are each described in separate sections of this document.

On-Site Zoning and General Plan Designations

Implementation of the Hidden Springs Specific Plan will require that much of the property be rezoned thereby replacing the site's current zoning designations. This Specific Plan will rescind Specific Plan #168 on the 279 acre portion of North Country and will constitute the zoning for the entire 483-acre site. The project proposes a higher density land use than is presently allowed. While 482 single-family units are permitted with the present

zoning, 1350 units would ultimately be permitted per the Hidden Springs Specific Plan.

The site's designation on the Open Space and Conservation Map of the County's Comprehensive General Plan will not be impacted by project implementation. That is, it will remain an "Area Not Designated as Open Space". (See Section III.C. Step One, Open Space and Conservation Map).

Surrounding Land Use

The conversion of the site to urban uses will impact the surrounding properties, as follows:

a) Box Springs Mountain Regional Park

Project implementation will result in the placement of residential uses adjacent to this regional park facility. Within those portions of the project site which share a common boundary with the park, densities of Very Low (1-3.5 d.u./acre), Low (3.5-5.5 d.u./acre) and Medium Low (5.5-7 d.u./acre) are planned. The proximity of these residences could create visual impacts for park users. It also increases the potential for unauthorized access to the park by project residents, which could disrupt and/or harass wildlife inhabiting this open space preserve. However, due to the steep and rocky terrain of the Box Springs Mountain park, it is unlikely that this would occur with much frequency.

As discussed in Section III.C.5., Biology, project construction will displace and/or destroy wildlife found on-site. Displaced wildlife, could migrate to the adjacent park, crowding and disrupting local populations. Although increased competition and predation will act rapidly to return population numbers to habitat carrying capacity levels, either local or displaced wildlife would be lost.

The reduction of on-site vegetative and wildlife resources could also reduce foraging opportunities for any raptors which may inhabit the Box Springs Mountain Park.

If, in the future, the County constructs a campground/equestrian staging area near the project site at Pigeon Pass Road, the potential exists for conflict between the facility and the residential uses proposed by the Hidden Springs project site, according to Mr. Richard Simons, Director of the Parks Department. He cited the potential for conflicts due to noise generated by campground users and flies and odors associated with equestrian activities.

Since fencing, walls, and/or landscape buffers/berming will be provided around the perimeter of the proposed development, it is expected that the majority of the above impacts will be minimized.

b) North Country Specific Plan

The open space system of the Hidden Springs Specific Plan has been designed to complement the open space system being constructed in North Country to

the east. The existing natural drainage channel, which constitutes the backbone of the greenbelt/paseo system continues on the adjacent Sunnymead Ranch site (North Country). As shown on Figure IV-9, Open Space and Recreation Plan, a potential trail linkage to this adjacent development is also provided for, allowing access to the five miles of trail, the 30.0-acre wooded park and the elementary school site. It is also anticipated that students from the Griffin project will attend the Sunnymead Ranch middle school and high school.

It is also planned that residents of the southern portion Hidden Springs will belong to the Sunnymead Ranch Master Homeowner's Association which will assume responsibility for natural greenbelt paseos, trails, entry features and common area slopes. Residents of the Griffin project would, therefore, utilize the open space, recreational lakes, community commercial and public uses of the adjacent Sunnymead Ranch.

c) Low Density Estate Lots

Along the site's northern boundary, adjacent to the existing low density estate lots, a variety of land uses are proposed. Proposed are areas of Medium Low Density (5.5-7 d.u./acre), Low Density (3.5-5.5 d.u./acre), 75.5 acres of undisturbed natural open space and a proposed 30.0-acre park. The densities proposed are higher than those presently found to the north, which could potentially disrupt their rural lifestyle through increased population, visual impacts, etc. However, it is not anticipated that significant amounts of vehicular traffic will

travel north on Pigeon Pass Road from the project. (See Section III.C.8., Circulation, Traffic, Scenic Highways).

As infrastructure is extended to the Hidden Springs site, development pressures will increase in the Pigeon Pass Valley. The area, with its lot sizes of 2-1/2 acres or larger, relies on individual systems for water and waste disposal. Project development could provide economical and practical means for the extension of piped water and sewer facilities to these areas.

Regional Considerations

Implementation of the proposed project will reduce the amount of open space remaining in Riverside County and will continue the trend toward urban expansion in the Sunnymead area.

As currently proposed, the Hidden Springs project will add 1350 dwelling units and a related population of 3,491 persons (2.58 persons per dwelling unit). This will increase the County's current population of 731,173 by 0.47%.

The Edgemont-Sunnymead RSA 1980 population of 28,800 would be increased by approximately 12% to 32,291 by the year 1995. As shown in Table III.1 of the County's Comprehensive General Plan, Regional Population Forecasts, this is within the forecasted population of 85,000 by the year 2000.

Construction of the proposed project will continue the trend towards urbanization of the area. It will expand in a northwesterly direction the type

of land use and development which characterizes the North Country Specific Plan. As a result of project implementation, urbanization will extend to the geographic units permitted by the Box Springs Mountains on the west and will extend further north up the Pigeon Pass Valley. This change, however, is generally compatible with the growth policies of the County of Riverside, per the Riverside County Comprehensive General Plan and by the County's Open Space and Conservation Map. (See Figure II-2, Area Development Trends).

Mitigations - Existing and Adjacent Land Uses, Regional Considerations

The residential, recreational and educational uses proposed for the Hidden Springs site are intended to complement the land uses of the Sunnymead Ranch (North Country) Specific Plan. It is anticipated that residents of the Griffin project will utilize the commercial services, recreational amenities and public facilities of North Country, thereby sustaining resident's needs internally to a certain degree.

In terms of surrounding land uses, the project has been designed to be a part of Sunnymead Ranch and will therefore be a positive asset for that community. Open space, trails, and roadway systems have been carefully coodinated to the best interest of both the Griffin project and the rest of Sunnymead Ranch. Along the northern boundary where low density estate lots abut the site, the provision of 75.5 acres of undisturbed open space,

a 30.0-acre wooded park, and low density housing will act to mitigate the potential impacts of urban development on these adjacent estate lots.

In addition, site design considerations such as lot layout, landscaping, and earth berming can be used to improve the transition between medium-low and low density housing on site and the estate lots to the north.

Development of the site through a coordinated Specific Plan rather than on an incremental (smaller parcel) basis is considered advantageous and is intended to mitigate potential land use impacts. The Specific Plan approach provides a phasing plan for development of complementary uses, which is not possible when development occurs in increments. The Specific Plan approach also allows the necessary flexibility in planning so that the final product responds to physical constraints on the property. For instance, the requirements for flood control measures, open space and recreational uses have been integrated into the site plan by providing a series of open space paseos including natural meadows, parks and trails. This open space system also preserves much of the significant natural vegetative communities while responding to the alternating plateau/valley landform of the site. Significant eucalyptus stands on the site will be retained as a wooded park.

13. Impacts and Mitigations of Incorporation of the Moreno Valley

As discussed in Section II.C.4. of this document, the southern 279-acre parcel is located within the newly incorporated City of Moreno Valley. Griffin Homes has applied to the new City for annexation of the remaining 204 acres.

Incorporation of the project site into the City of Moreno Valley could have an effect on some, but not all, of the existing conditions, impacts and mitigations discussed in this document.

Following incorporation, the City could potentially adopt standards, ordinances or General Plan policies relative to grading, hillside preservation, erosion control, slope ratios, etc. which differ from those enforced by the County of Riverside. The Hidden Springs project would be subject to these regulations which could alter certain elements of the project design.

Because the 483-acre site lies within the boundaries of the Master Drainage Plan for the Sunnymead area, it is anticipated that the flood control improvements proposed by the Hidden Springs project would not be altered by incorporation.

In regards to noise, biology, cultural and historical resources, climate and air quality, circulation and traffic, aesthetics and energy, it is anticipated that existing conditions, impacts and mitigations discussed in this Specific Plan/EIR document would not be significantly altered by the

incorporation of the new City. Again, however, the City of Moreno Valley could potentially adopt General Plan policies which would, over the life of the project, affect the ultimate land use plan.

The most significant result of the incorporation would be in the provision of public facilities and services. Since the site lies within the service area of the Eastern Municipal Water District (EMWD) for water and sewer service, no changes in existing conditions, impacts and mitigations are expected to result from incorporation.

Fire protection services to the area are presently provided by the County of Riverside through a contract from the California Department of Forestry. The County will be required to provide these and other County services to the City of Moreno Valley until June 1985. After that, it will be the City's option whether to continue contracting with the County or to go elsewhere. This November-June provision applies to all County services such as planning, building and safety, public works, administrative code enforcement, etc. Therefore, project impacts and mitigations to fire and police protection may ultimately affect the City of Moreno Valley rather than the County of Riverside. This situation would also apply to the provision of parks and recreation services.

Solid waste generated by the project will be taken to the County of Riverside Badlands Disposal site. However, the City could elect to establish its own collection service rather than contracting with

private firms such as SunnyEdge Disposal Company. This would not be a significant alteration to the conditions discussed in this document.

"Existing and Adjacent Land Uses, Regional Considerations" could potentially be affected by the recent incorporation in the following ways: a) The project will have to respond to the City of Moreno Valley General Plan and Zoning Ordinances; b) the population increase of 3,785 persons would represent significant growth to the newly incorporated city, though the growth is anticipated by SCAG forecasts; and c) the project represents a commitment to residential uses on approximately 276 acres of the 483-acre site, thereby reducing the amount of open space potentially existing in the City.

STEP THREE: PLANNING AREA PROFILE - COMMUNITY POLICIES

The site is located along the northeastern boundary of the Riverside/Corona/Norco Land Use Planning area. The 1980 Census showed a population of 14,310 in this unincorporated County area. This number is expected to increase to 17,900 by the year 2000. In its analysis of the land use potential for this area, the General Plan cites the following characteristics which would accommodate growth. These are:

1. Close proximity to Orange County.
2. Rail and freeway access can potentially aid commercial and industrial growth.
3. This land use planning area has the major public transit system center for the County.

The General Plan notes several potential constraints on growth in this land use planning area. The potential constraints listed are:

* Infrastructural capacity
* Groundwater level fluctuations
* Floodplain and liquefaction hazards

Background studies done for this project have determined that, of these constraints, only floodplain hazard occurs on site. This hazard has been mitigated through the site design as detailed in the Master Drainage Plan portion of Section IV of this document.

The project is located within the Moreno Valley Community Policy Area. The land use policies, as they apply to the project site are as follows (policies are shown in bold-face type):

a. Circulation

1) **Implement the County's Master Plan of Street and Highways.** This has been accomplished. For details, refer to the Circulation Plan (Section IV.D. of the Specific Plan).

2) **Entrance roads in Moreno Valley should have planted medians and landscaped shoulders.** These have been implemented in conjunction with project design. (See Section IV-A, Project Design).

3) **Heavy through traffic should be eliminated from residential neighborhoods.** Major roadways are implemented as non-access roadways while residential neighborhoods are served by smaller residential collectors and local streets (See Section IV-D, Circulation Plan).

4) **Pedestrian traffic should be separated from vehicular traffic, particularly in commercial and high density areas.** A pedestrian trail system has been proposed as enumerated in the Open Space and Recreation Plan, Section IV.E.

b. Design

1) **Developments surrounded by walls or fences extending more than 100 feet along a public thoroughfare shall screen those walls or fences with appropriate plantings.** Fencing and wall design will be closely controlled and will be complimented with landscaping. (See Section IV.A., Project Design).

2) **Healthy shade trees shall remain in place during and after development.** There are currently significant stands of trees on site. Most of these will be preserved and will be augmented by additional similar landscaping upon implementation of the proposed project (See Section IV-A, Project Design and Section IVE, Open Space and Recreation Program).

STEP FOUR: LAND USE CATEGORY DETERMINATION

As stated in the General Plan, "land use categories are based upon different levels of public facilities and services" and "step four review begins with an assessment of the availability and extent of water, sewer, and circulation to the site". As determined in the Step II analyses of water, sewer and circulation availability, there is adequate master-planned infrastructure to provide a good level of service to the site.

Both sewer and water service in the area of the site are provided by Eastern Municipal Water District. As discussed above, these services are currently available to the site and are master-planned to easily accommodate a Category II (Urban) level of service. EMWD has indicated that both water and sewer service would be available to serve the project as planned.

As shown in Figure III-6 in the Circulation and Traffic portion of "C. Environmental Setting" above, master-planned access to the property is good. The following master-planned roadways provide direct or indirect access to the site:

* Pigeon Pass Road (secondary)
* Old Lake Road (major)
* Box Springs Road (secondary)
* Sunnymead Ranch Parkway (major/secondary)
* Heacock Street (major)
* Perris Blvd. (arterial)

Of these above-mentioned roads, Pigeon Pass, Heacock and Perris have existing interchanges with Freeway 60. The site is about a mile and a half from Highway 60.

Based on the availability of services described above and the environmental constraints determined in Step 2, it becomes evident that the site can accommodate certain Category II, Urban, land uses. Because of the project's location away from the central urbanizing core of the Moreno Valley, over-all project density should be at the lower end of the Category II density range (2-8 du/ac).

When the project area is considered as a whole, residential units proposed yield only 3.0 du/ac. The mountain areas on site adjacent to Box Springs Regional Mountain Park are preserved as a natural open space backdrop to the project.

D. REGIONAL ELEMENT

The County General Plan Regional Element contains goals and policies that address planning issues extending beyond County boundaries to other areas of Southern California. Topics include: air quality, transportation, sewage treatment, environmental issues, water quality, open space, housing and solid waste. Each of these topics has been covered separately in the environmental analysis portions of this document (Sections III.c. and V). Where impacts are expected on a regional basis, a cumulative analysis is presented to provide decision-makers a relevant context from which decisions can be made.

Three Regional Land Use Policies which are particularly applicable to Hidden Springs are covered as follows:

1. Regional Population-Forecasts - The Regional Element requires analysis of the project in relation to the SCAG 82 Regional Population Forecasts. As discussed previously in Section III.C.12, the subject property technically falls within the Riverside/Corona/Norco Regional Statistical Area (RSA 46.2). It is generally acknowledged, however, that the project is more influenced by and more a part of the Edgemont/Sunnymead RSA (46.1). According to general plan population forecasts, population in RSA 46.1 and 46.2 are expected to increase by 56,200 and 2,600 respectively by the year 1995. Over this same time period, Hidden Springs will be completed yielding a population of approximately 3,491 by the year 2000. This population is within the increases projected for RSA 46.1 and RSA 47. Since the project does conform to area RSA forecasts, it can reasonably be expected that regional planning for public facilities and environmental protection will be adequate to meet the needs and impacts of the proposed development.

2. Job/Housing Balance - In the greater Moreno Valley/Perris Valley area, a significant imbalance exists between housing and jobs due to a proliferation of residential development without a commensurate increase in industrial and commercial (job-producing) development. In the past, this was due to a large demand for residential units and a lack of industrial-zoned land. This situation has

been somewhat remedied by a rezoning of land north and south of March Air Force Base south of the project site. The project proponent considered industrial and commercial uses for the project but these uses are not considered appropriate for the site for the following reasons:

* Existing and approved development adjacent to the site is residential.

* The site is too far removed from major infrastructural system such as freeways, railroads, major water supply system, etc.to support industrial development.

* Commercial development is planned in Sunnymead Ranch east of Pigeon Pass Road. This commercial development is planned to serve the residents of the entire Sunnymead Ranch including the project site. More intensive freeway commercial uses are best located along the freeway corridor.

* Market demand for affordable single family detached residences remains strong in the Moreno Valley area.

* Existing uses to the north of the project are low density residential uses. The densities proposed for Hidden Springs will provide a smooth transition from areas north of the project to the higher intensity uses around the core of Sunnymead Ranch. Commercial and industrial development is incompatible with the existing uses north and west of the project.

3. Urban Form - Hidden Springs is consistent with the Urban Form Policies of the Regional Element. The project is located on the edge of the rapidly urbanizing Moreno Valley. Site design takes advantage of master planned sewer, water, circulation and storm drain systems. Per policy "W" on page 193 of the Comprehensive General Plan, the land use plan for the site responds to topographic, geologic, drainage and biological constraints.

E. HOUSING ELEMENT

Goals of the Riverside County General Plan Housing Element that are relevant to the project are as follows:

* To provide all residents of the County with the opportunity for suitable, safe and affordable housing.

* To provide a selection of housing that is decent, safe and sound in close proximity to jobs and daily activities and that varies by location, type, design and price.

* To plan residential growth in an orderly manner to make the best and most efficient use of existing and future infrastructure.

* To provide housing that responds to market needs and satisfies the demand for varied product types and price ranges.

The proposed project will, over a seven year period, add 1350 dwelling units to the Moreno Valley area. The following specific features of the project respond directly to the goals outlined above:

* A logical extension of urbanization in an area well master-planned for circulation and utilities.

* Several densities of detached single family housing will be provided within the project.

SECTION IV
Specific Development Plan

SECTION IV: SPECIFIC DEVELOPMENT PLAN/ENRONMENTAL IMPACTS & MITIGATIONS

A. PROJECT DESIGN

Hidden Springs is planned to be an extension of the overall Sunnymead Ranch master-planned community currently under construction east of the project site. If they join the Sunnymead Ranch Master Homeowner's Association, residents of portions of the Griffin project will both support and enjoy the major community amenity features such as the recreational lakes, the landscaped open space system, and bicycle trails. The residents of the Griffin project will also support the community commercial center at the corner of Lakeview Road and North Country Boulevard.

The basic design concept for the project is illustrated in Figure IV-1. The major roadway configuration responds to master planned circulation in the area of the site. Undisturbed natural open space areas are planned for western areas of the site in response to geologic and topographic constraints.

Natural and developed open space systems are an integral part of the project design for Hidden Springs. Existing drainage courses and dense tree stands are being utilized as natural open space amenities incorporating trails and developed parks. For a more detailed description of the project circulation, drainage and open space/recreation plans, please see Sections IV.C.E & G of this Specific Plan/EIR.

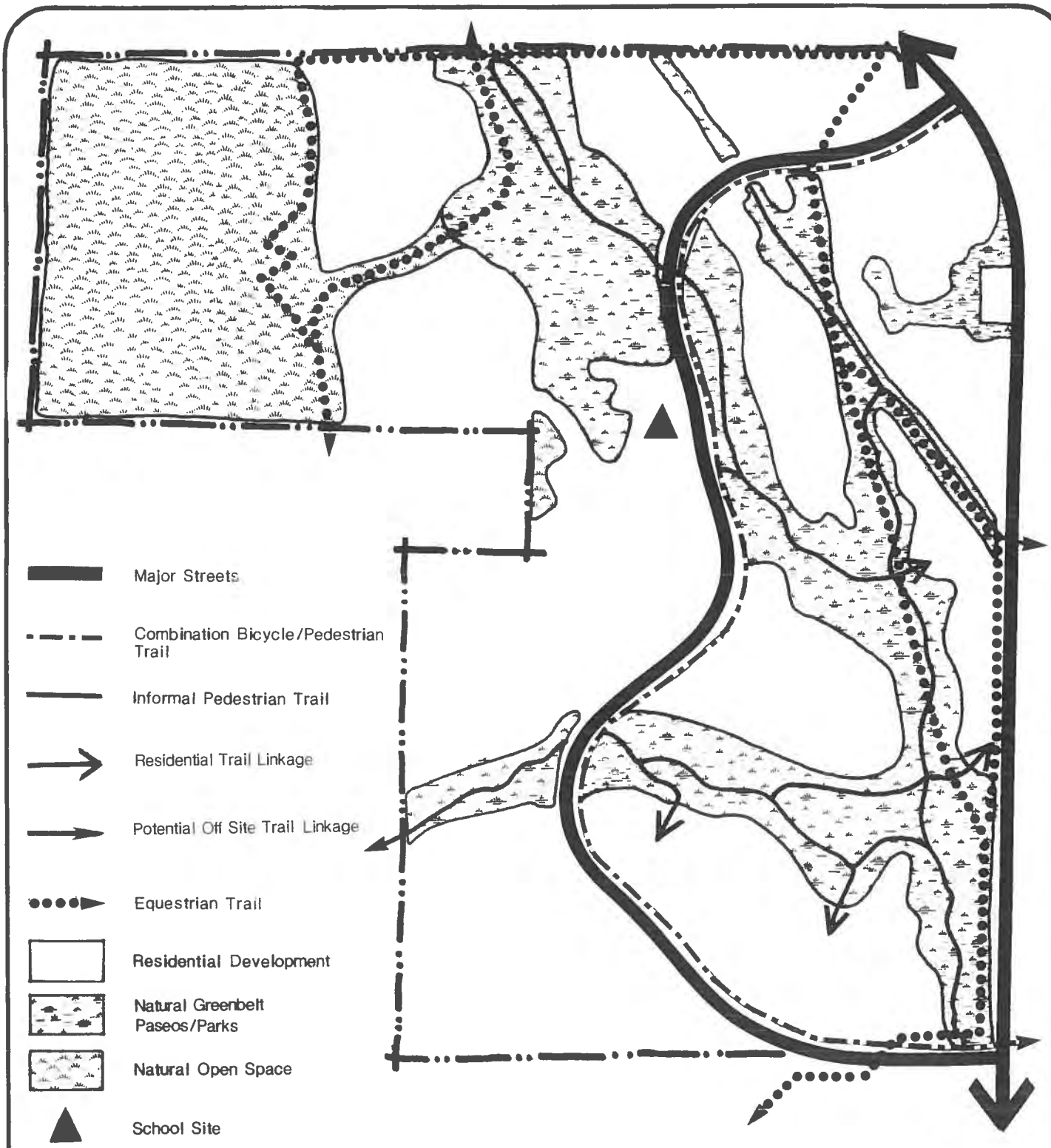

Figure IV-1

Project Design Concept

HIDDEN SPRINGS

By Griffin Homes

22 Falcon Ridge Drive Pomona, Ca., 91766

TURRINI and BRINK
1920 E 17th St Suite 200
Santa Ana, Calif 92701
Phone (714) 835-1691

north 0 187 375 750

1. Architecture and Signage

Architecture and signage themes established in Sunnymead Ranch will be extended into this project. Hidden Springs will be further identified and unified through design elements such as color, paving, walls, fencing, and entry treatments. Some variability of design will be allowed so that individual development planning areas, though still identifiable and compatible with the overall community, will be able to establish their own individual identity.

2. Entry and Roadway Hierarchy

Entry and roadway hierarchies have been established that articulate both the entire project as well as individual planning areas. This concept is shown in Figure IV-2 Entry/Roadway Hierarchy Plan. Major project entries (illustrated in Figure IV-3) are located where the main project collector meets Pigeon Pass Road. A minor project entry is located midway between the two major project entries on Pigeon Pass Road. Neighborhood entries provide access from the main project collector to individual planning areas (neighborhoods) as illustrated in Figure IV-4. In terms of roadways, primary access to the site is provided by Pigeon Pass Road. Secondary access is possible via Lakeview Road and North Country Boulevard. The main roadway on site is the project collector which begins as an extension of Lakeview Road from the southeast corner of the site. The collector winds through the project to its terminus further north on Pigeon Pass Road. This roadway, though designed from a traffic standpoint as a 66 foot R.O.W. collector, will be bordered by an additional 11' landscaped area on either side. On the eastern side of the collector a 10' paved pedestrian bicycle trail is

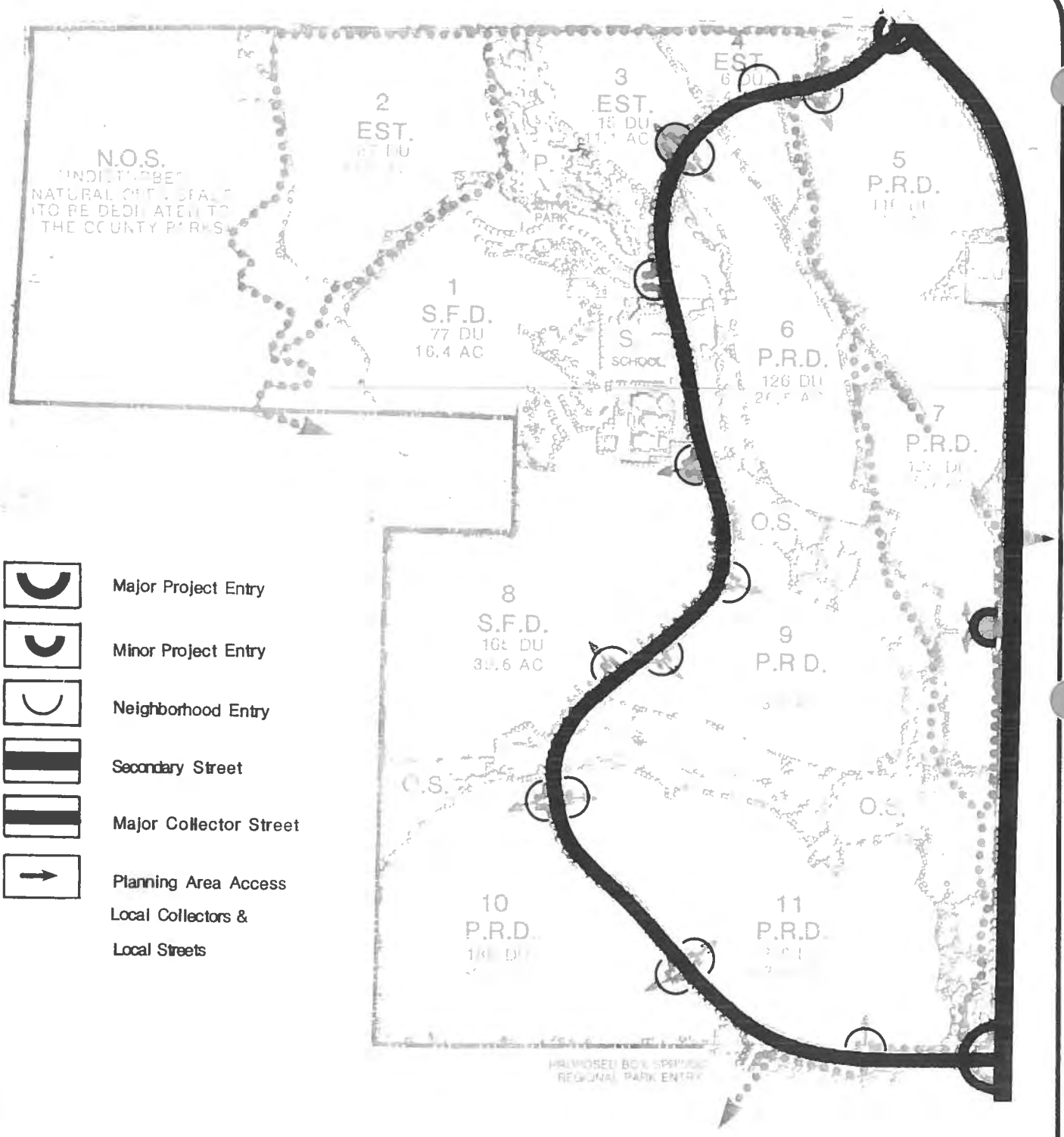

Figure IV-2

Entry/Roadway Hierarchy Plan

HIDDEN SPRINGS

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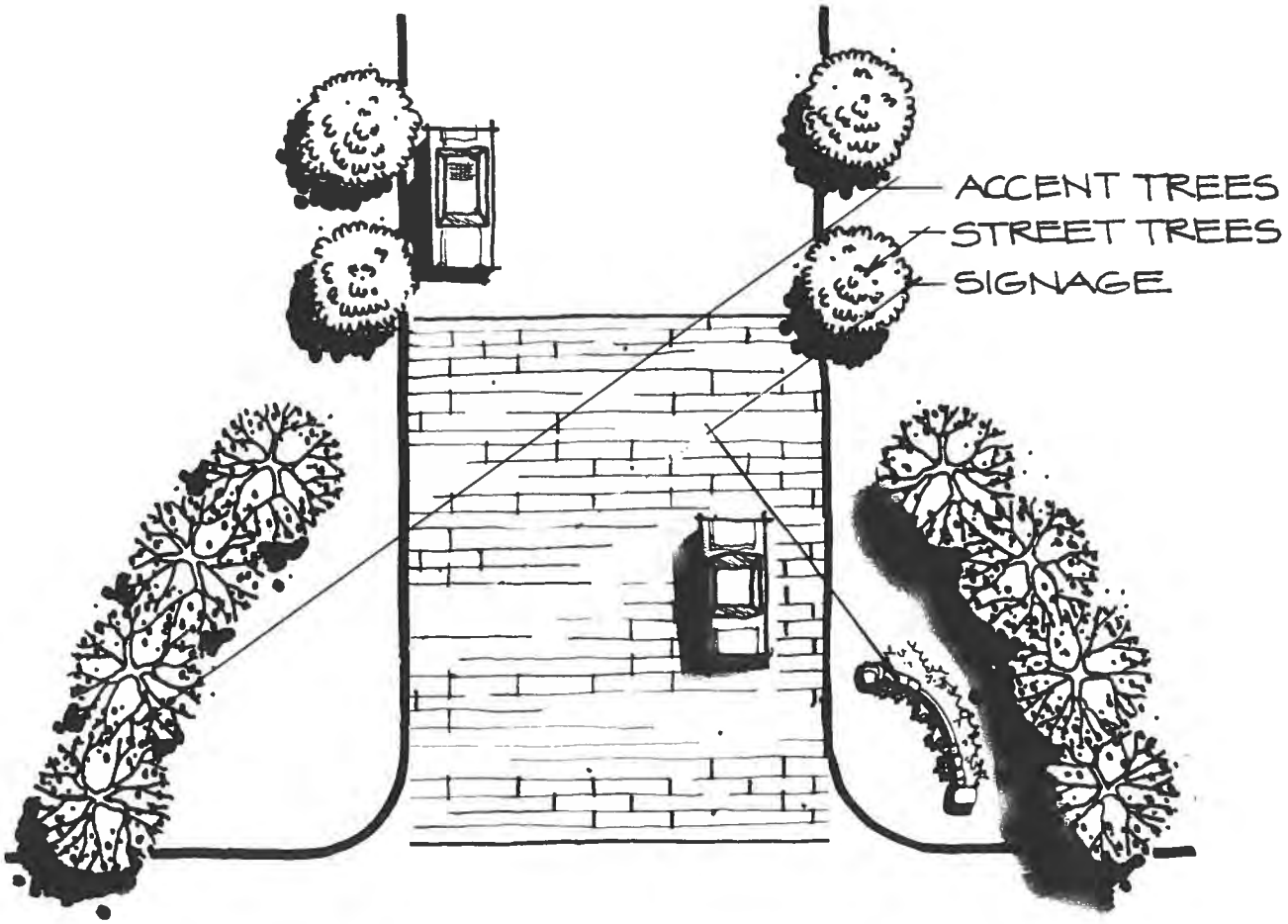
ENTRY DETAIL



PLAN VIEW

Figure IV-3

Typical Major Project Entry

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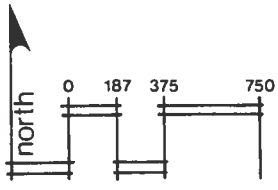
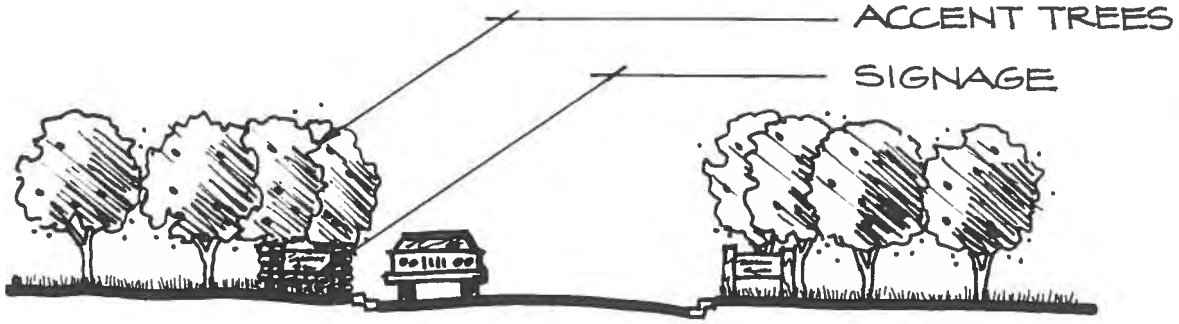
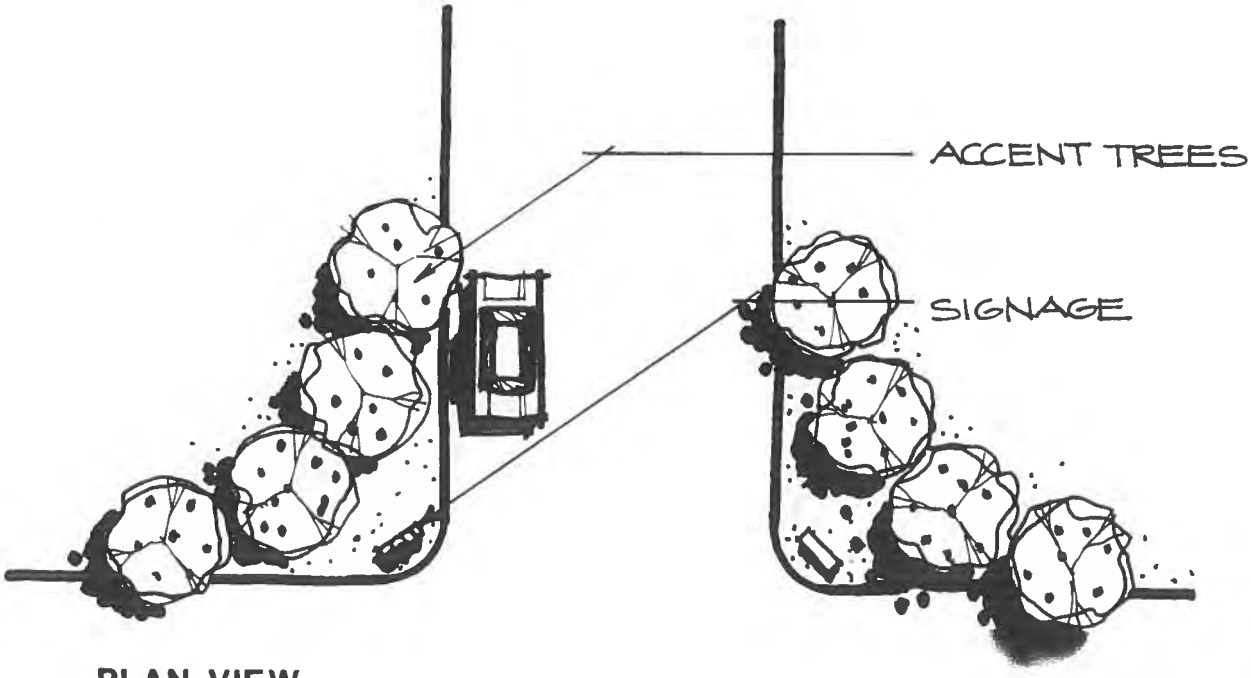




SECTION



PLAN VIEW

IV-4

Typical Neighborhood Entry

HIDDEN SPRINGS

By Griffin Homes

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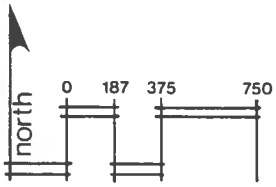
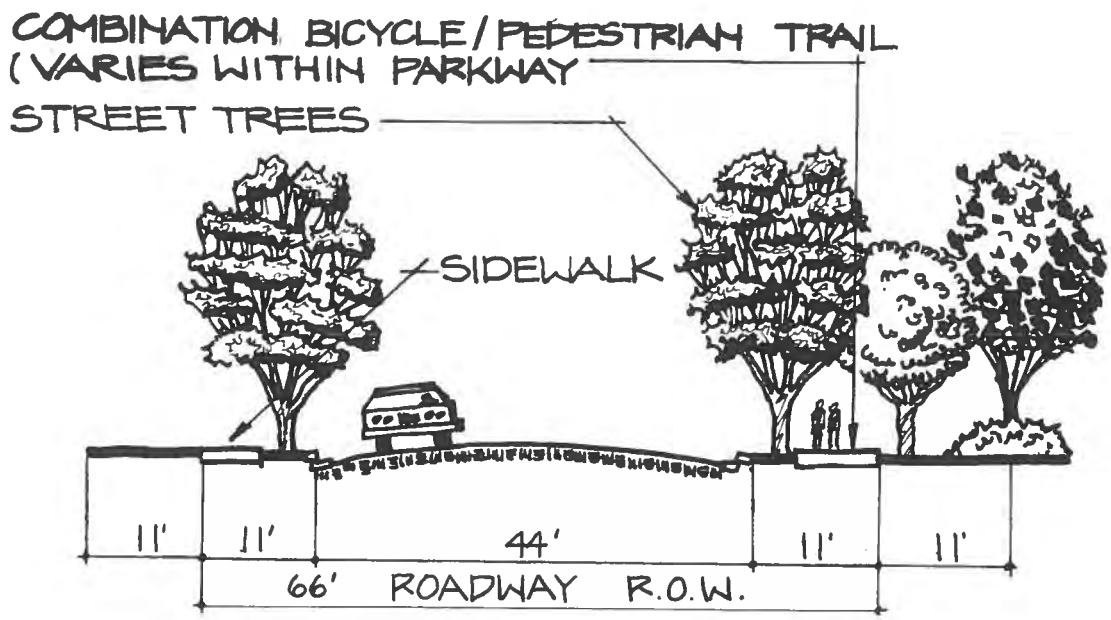


proposed to meander within the 22' landscaped area. This trail, along with the street trees and informal landscaping, will reinforce project identity. Landscaping on local roadways within each planning area will be smaller in size to reflect human scale and to convey an "at home" feeling. Illustrative sections for both the collector and a typical local street are shown in Figure IV-5.

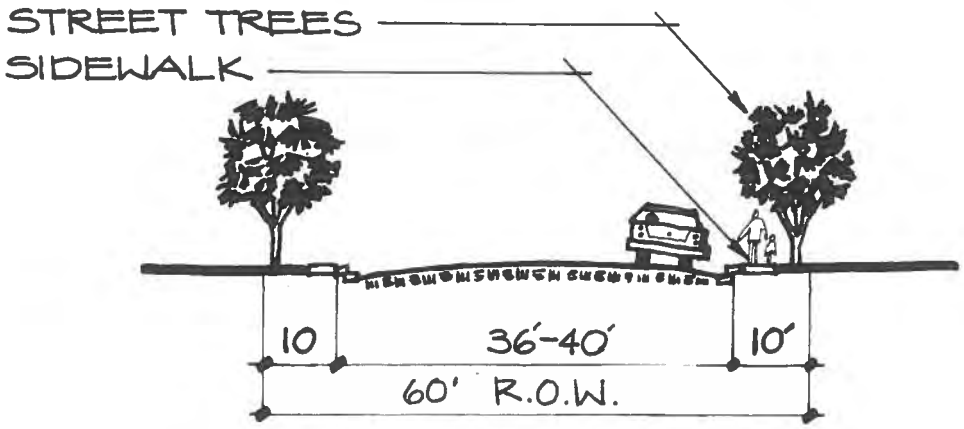
3. Landscape Design

Landscape design will play an important role in defining the open space, trail, and park facilities proposed for the project (for further details on the Open Space and Recreation Plan see Section IVE of this Specific Plan). The majority of the interior open space system will remain in its existing natural state. The trails within the open space will follow existing dirt road alignments where possible and will be constructed using natural materials (such as decomposed granite). The existing tree masses on site will in large part be preserved within the open space system. Additional planting is proposed in developed park areas and along project trails to enhance views and to provide shade. Manufactured slopes will be landscaped not only to blend into adjacent natural open space but also for erosion control.

Existing vegetation on site that will be preserved includes dense eucalyptus stands and two pockets of riparian vegetation. Project landscaping should be compatible with these existing species. Plants that will naturalize such as Eucalyptus and California Pepper, should be used in open space areas in order to reduce long term irrigation requirements.



MAJOR COLLECTOR STREET



LOCAL STREET

Figure IV-5

Illustrative Street Sections

HIDDEN SPRINGS

By Griffin Homes

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4. Energy Conservation

Because this project is being planned as an extension of Sunnymead Ranch, which is a master planned community, certain opportunities are presented whereby energy resources can be conserved. The following are features of this project that will accomplish this goal:

a. Because recreational and commercial uses are planned within Sunnymead Ranch, the need for project residents to drive extensively is reduced.

b. A complete system of trails is proposed that will extend throughout the project to provide all residents with an opportunity for non-vehicular access to project parks and the school, as well as nearby recreational and commercial facilities.

c. Modern construction and insulation techniques will reduce home heating energy needs. Implementation of this Specific Plan will conform to applicable Title 24 State Building Standards.

B. LAND USE AND DENSITY

The land use plan for Hidden Springs responds to the development opportunities and constraints as presented in Section III of this document. The plan implements project design goals which are discussed in Section IVA above. Proposed land uses include single family residential, a school, natural as well as developed open space, trails, and a major collector road.

The land use plan is shown on Figure IV-6. A 200-scale illustrative development plan is included within this document which may be used to gain a better understanding of the proposed project. Table IV-1, Project Summary, shows a breakdown of proposed uses, acreages, density ranges, and dwelling units. Acreage and dwelling unit ranges for each planning area are shown on Figure IV-6. Each land use category is discussed in more detail below.

1. Residential Land Uses

Residential uses are planned for 283.1 acres (about 59% of the site). The three residential categories proposed are: Estates (very low density - 1/2 acre and larger lots), single family detached (low density - 8,875 square foot average lot sizes) and PRD (medium-low density planned residential development). Estate lots are proposed for those portions of the site where slope, geology and adjacent land use constraints dictate low development intensity. Single family detached development is proposed where development constraints are reduced but still present. Most of the residential acreage falls into the PRD on portions of the site that are quite suitable for development. Churches are a permitted use within any portion of the plan that is designated for residential use.

2. School

In response to area needs as determined in the Sunnymead Ranch Specific Plan and in conversations with the Moreno Valley School District, a 6.8 acre elementary school site has been provided. This site is located centrally within the project and is accessible by trail to all project residents.

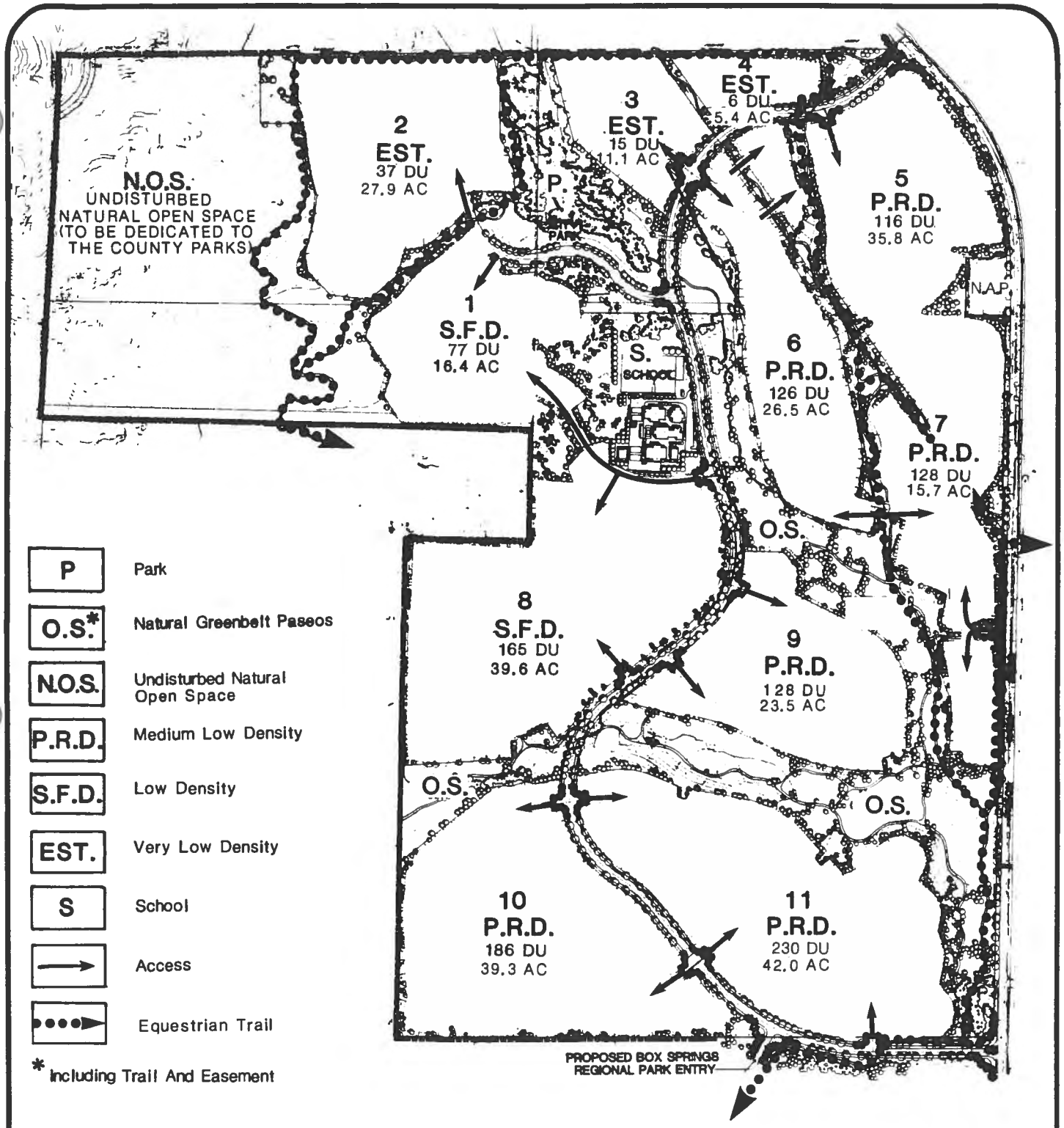

Figure IV-6

Specific Land Use Plan

HIDDEN SPRINGS

By Griffin Homes

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TABLE IV-1
PROJECT SUMMARY

LAND USE	AVERAGE LOT SIZE		ACRES	DU
Estates - 1 ac min.	1.1 ac		45.4	14
Estates - 1/2 ac min.	.6 ac		29.0	44
SFD - 7,200 s.f. min.	8,875 s.f.		56.0	242
	Gross Res.	Gross Prd		
PRD - 6,000 s.f. min.	6,900	11,005	39.3	186
PRD - 5,200 s.f. min.	6,241	11,005	143.5	728
Residential Subtotals	4.3 du/ac		283.2	1214
City Park			24.3	
Natural Greenbelt Paseos			74.6	
Natural Undisturbed Open Space			80.5	
Water Tank Site			2.4	
School Site			6.8	
Collector Road			10.8	
Project Totals	2.5 du/ac		482.6	1214

OPEN SPACE SUMMARY

Park		24.3 ac	
Natural Greenbelt Paseo		74.6 ac	
Natural Undisturbed Open Space		80.5 ac	
Box Springs Dedication	- 70.2 ac		
Master H.O. Assn.	- 10.3 ac		
Tank Site		2.4 ac	
Total Open Space		181.8 ac	
School Site		6.8 ac	
Total		188.6 ac	39% of total Project Site

3. Open Space and Recreational Uses

181.8 acres (38% of the project site) is devoted to open space and recreational uses, including natural open space, parks, naturalized paseo greenbelts, slopes, natural drainage courses, and pedestrian/bicycle/equestrian trail systems. The Open Space and Recreation Plan is discussed extensively in Section E below.

4. Circulation

Eleven acres of the site are devoted to a project collector loop that intersects Pigeon Pass Road at the southeastern and northeastern corners of the property. As shown on the land use plan, local roadway connections to residential planning areas allow safe and efficient internal circulation and access. For additional details on project roads and standards, refer to "Section D" later in this document.

C. HOUSING PROGRAM

Hidden Springs is essentially a residential housing development that will provide a range of housing types to meet anticipated market demand in the Moreno Valley area. Each of the three land use categories provides a density range that permits a variety of residential product types as shown on Table IV-2.

TABLE IV-2
HIDDEN SPRINGS PRODUCT TYPES AND
DISTRIBUTION

Residential Density Range	Product Types	Applicable Planning Areas
Estates	Custom, Semi-Custom Lots,	2, 3, 4
Single Family Detached	SFD Semi-Custom 10,000 S.F. lots; Conventional 7,200, S.F. lots	1, 8
PRD	Planned residential 5,200, 6,000 and 7,200 S.F. lots; Patio Homes	5, 6, 7, 9, 10, 11

D. MASTER CIRCULATION PLAN

1. Roads

The proposed roadway circulation system for Hidden Springs contains roadway widths, alignments, and access locations that respond to the traffic service needs of the project. Immediate access to the project site is provided by the County master-planned roadways listed below:

* Pigeon Pass Road - secondary
* Old Lake Road (formerly Lakeview Rd.) - major
* Sunnymead Ranch Parkway (formerly North County Boulevard) - major/secondary

Pigeon Pass Road connects directly to Freeway 60. Sunnymead Ranch Parkway leads to Perris Boulevard which also connects to Freeway 60 south and east of the project site.

Primary access within the project site will be provided by a 66' Right-of-Way Collector loop that intersects Pigeon Pass Road opposite Old Lake Road at the southeastern corner of the project. The collector is shown entirely off-site along the southern edge of the property in order to align directly with Old Lake Road which is already approved by the County. As shown on Figure IV-7, Master Circulation Plan, this project collector loops through the project to again intersect Pigeon Pass Road at the northeastern corner of the site. This collector is non-access along its entire length. Local roadways will provide access and circulation to and within the individual planning areas.

Cross sections for the project collector and local streets are shown in Figure IV-8.

Circulation Standards for Development have been developed that will apply to future development of the project site pursuant to this Specific Plan. These standards are contained in Table IV-3.

2. Non-vehicular Circulation

Both bicycle and pedestrian trails are planned for the project. This trail system is divided into two compo-

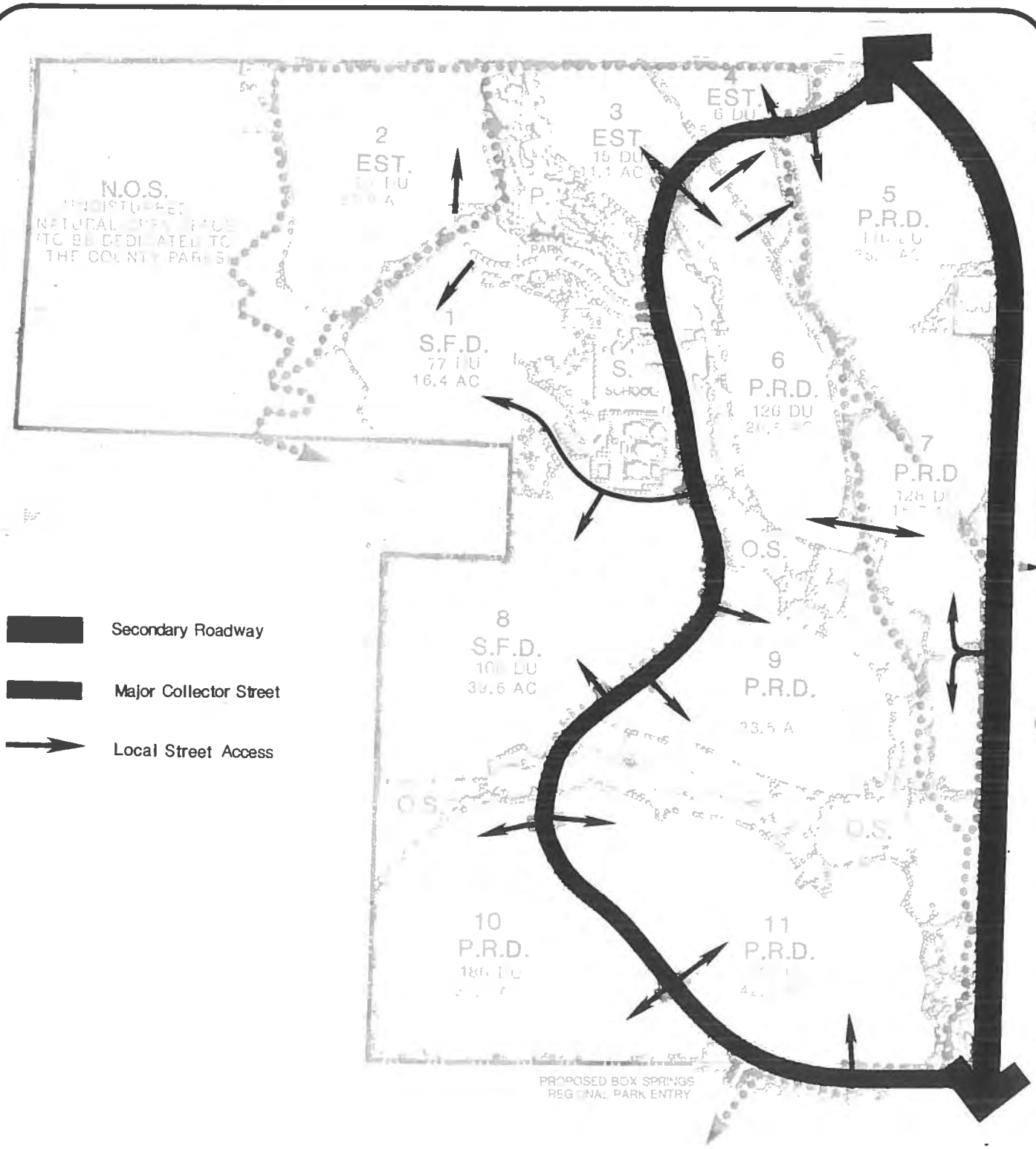

Figure IV-7

Master Circulation Plan

HIDDEN SPRINGS

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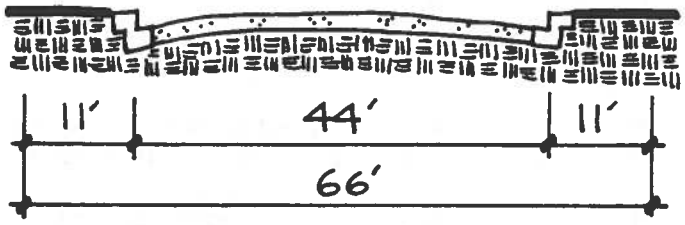
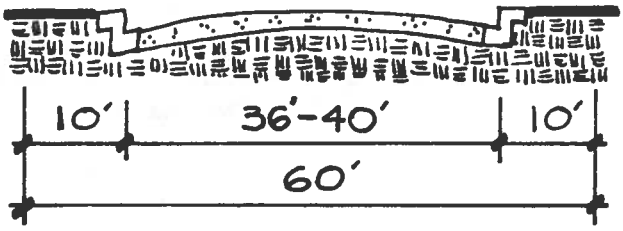


MAJOR COLLECTOR STREET



LOCAL STREET

Figure IV-8

Roadway Cross Sections

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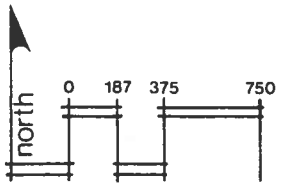


TABLE IV-3
STANDARD FOR DEVELOPMENT
CIRCULATION

* A half section of Pigeon Pass Road shall be constructed adjacent to the project boundary pursuant to County standards for Secondary Streets. Acceleration and decceleration lanes shall be provided on Pigeon Pass Road at its intersection with project streets. Lanes and striping shall be in accordance with the Traffic Study of the Specific Plan.

* The "Major Collector Street" as shown on the Circulation Plan shall be constructed as a Collector Street pursuant to County Standards.

* All remaining project streets shall be constructed as local streets pursuant to County Standards.

* A traffic signal shall be provided at the intersection of Pigeon Pass Road and the southerly terminus of the Major Collector Street as warranted by future traffic conditions.

* Appropriate traffic controls (stop signs) shall be provided within the project as recommended in the Traffic Study.

* Roadway construction shall be phased such that two points of access are provided for all those areas containing more than 110 dwelling units.

nents: a) a 1.5-mile loop trail paralleling the main project collector and b) 2.8 miles of meandering informal pedestrian trails and 3.5 miles of equestrian trails throughout the paseo greenbelts and park.

Adjacent to the roadway right-of-way on either of the main project collector an additional 11' of landscaped area will be provided. A 10' combination bicycle/pedestrian trail will meander within the 22' landscaped shoulder on one side of the road. A conventional side walk is planned on the other side of the collector loop. This concept is illustrated on Figure IV-5, Illustrative Street Sections. At key locations throughout the project, this trail will connect with the trail system which is planned for the naturalized open space paseo greenbelts. Additional detail on project trails is contained in "E. Open Space and Recreation Plan" below.

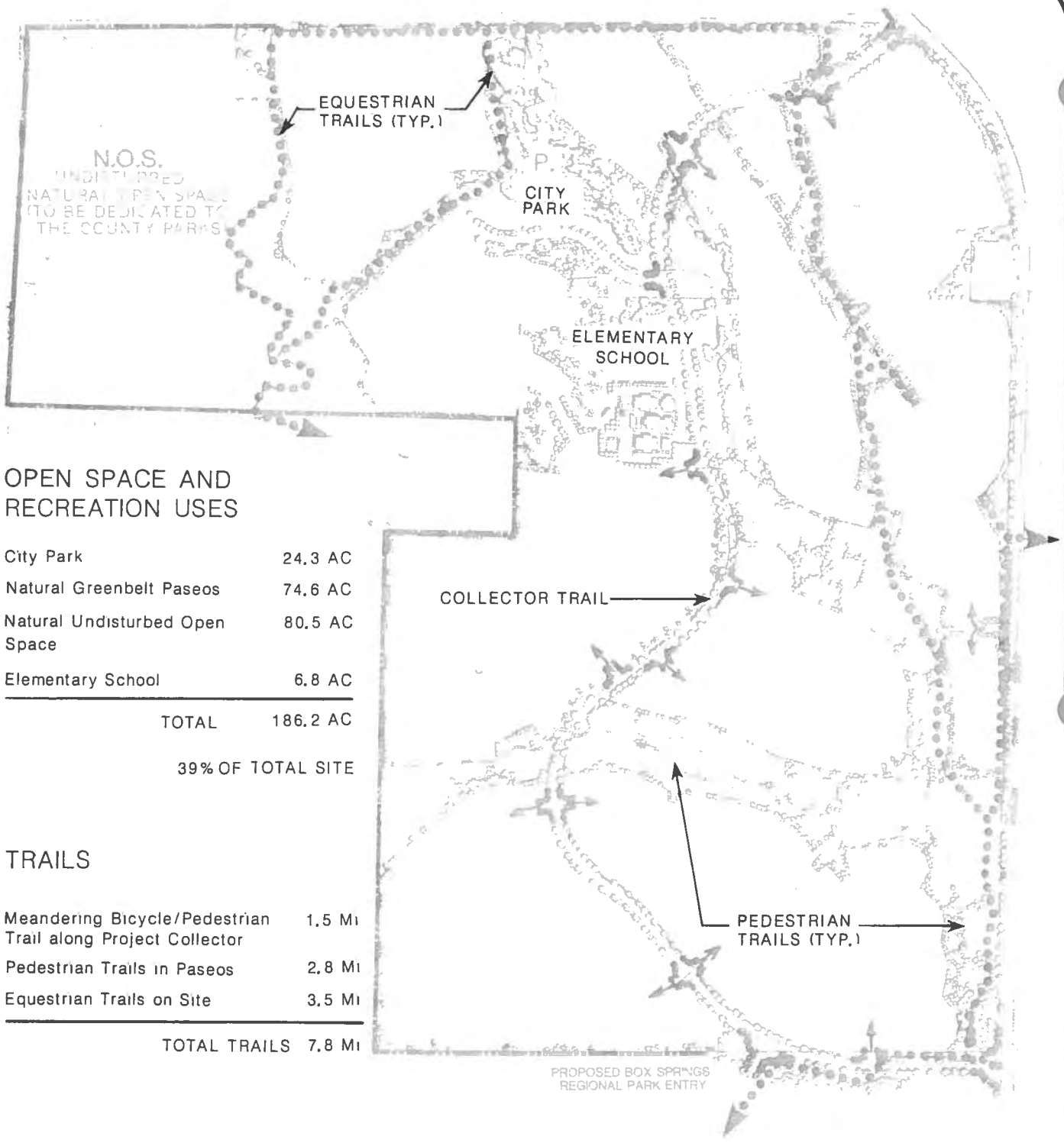
E. OPEN SPACE AND RECREATION PLAN

An extensive open space, and recreation system is provided within the project as shown on Figure IV-9. Included are 80.5 acres of undisturbed natural open space, 74.6 acres of naturalized greenbelt paseos, 24.3 acres of park, and 7.8 miles of trails.

In response to topographic, geologic, hydrologic and vegetative constraints, the open space system has been configured to accomplish the following:

* Preserve much of the significant natural vegetative communities of the site including riparian areas and large tree stands.

* Provide a dual-use open space/flood control function.



OPEN SPACE AND RECREATION USES

City Park	24.3 AC
Natural Greenbelt Paseos	74.6 AC
Natural Undisturbed Open Space	80.5 AC
Elementary School	6.8 AC
TOTAL	186.2 AC

39% OF TOTAL SITE

TRAILS

Meandering Bicycle/Pedestrian Trail along Project Collector	1.5 Mi
Pedestrian Trails in Paseos	2.8 Mi
Equestrian Trails on Site	3.5 Mi
TOTAL TRAILS	7.8 Mi

Figure IV-9

Open Space And Recreation Plan

HIDDEN SPRINGS

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* Respond to the alternating plateau/valley landform of the site.

* Preserve rock-outcroppings and areas of shallow bedrock as natural open space.

* Provide non-vehicular linkage between residential planning areas, the park, and the school.

Individual features of the open space and recreation system are detailed below.

1. Parks

A 24.3-acre wooded park is planned for the project. This park encompasses the largest eucalyptus grove on the site. Additional eucalyptus trees can be planted in various sections along the periphery of the park site to provide continuity and additional shading for park users. Several clearings may be turfed and used for picnicing or other passive uses. The existing drainage course along the eastern edge of the park will be retained to accommodate offsite drainage. This park will be publicly owned and maintained.

2. Naturalized Greenbelt Paseos

The largest on-site drainage courses (74.6 acres) will be retained as naturalized open space greenbelt paseos. These paseos will not only provide an aesthetic amenity between planning areas but will also convey storm run-off through the project.

Landscaping throughout these areas will be limited primarily to man-made slopes, in clusters along trails, and to enframe views along roads. Species utilized should be compatible with existing eucalyptus groves, should naturalize readily, and should be drought resistant to reduce future irrigation requirements.

As discussed in more detail below, trails will be provided throughout the paseos. These greenbelt areas therefore act not only as a buffer between planning areas but also as a non-vehicular linkage between different residential neighborhoods, the park, and the school.

3. Trails

Trails are proposed both along the main project collector roadway and throughout the greenbelt paseos. In all, more than 7.8 miles of trails are proposed. Trail alignments are shown on the Open Space and Recreation Plan, Figure IV-9. The trail along the main collector roadway will meander adjacent to the roadway right-of-way in a 22-foot landscaped shoulder. This trail, which is illustrated in Figures IV-10 and IV-11, will be a combination bicycle and pedestrian trail similar to those proposed in Sunnymead Ranch to the east of Pigeon Pass Road.

The trails in the natural greenbelt paseos will be informal meandering pedestrian and equestrian trails. Where possible, they will follow existing dirt roadway alignments. They will consist of natural materials such as decomposed granite which can be found in many areas of the site. These trails should be designed to meet County General Plan standards. Where a connection is made to adjacent roadways, Box Springs Regional Park, or

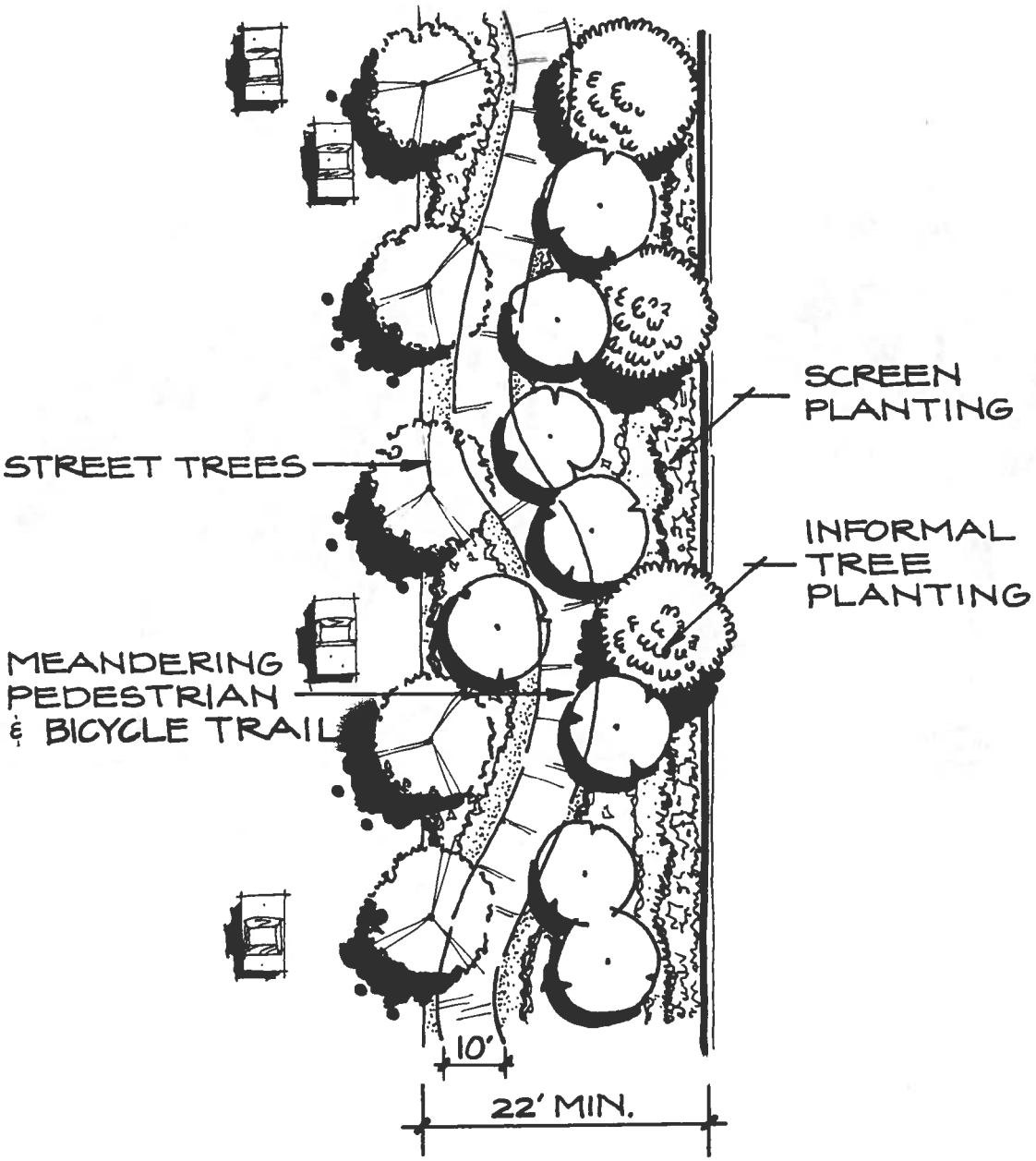

Figure IV-10

Community Trail Plan View

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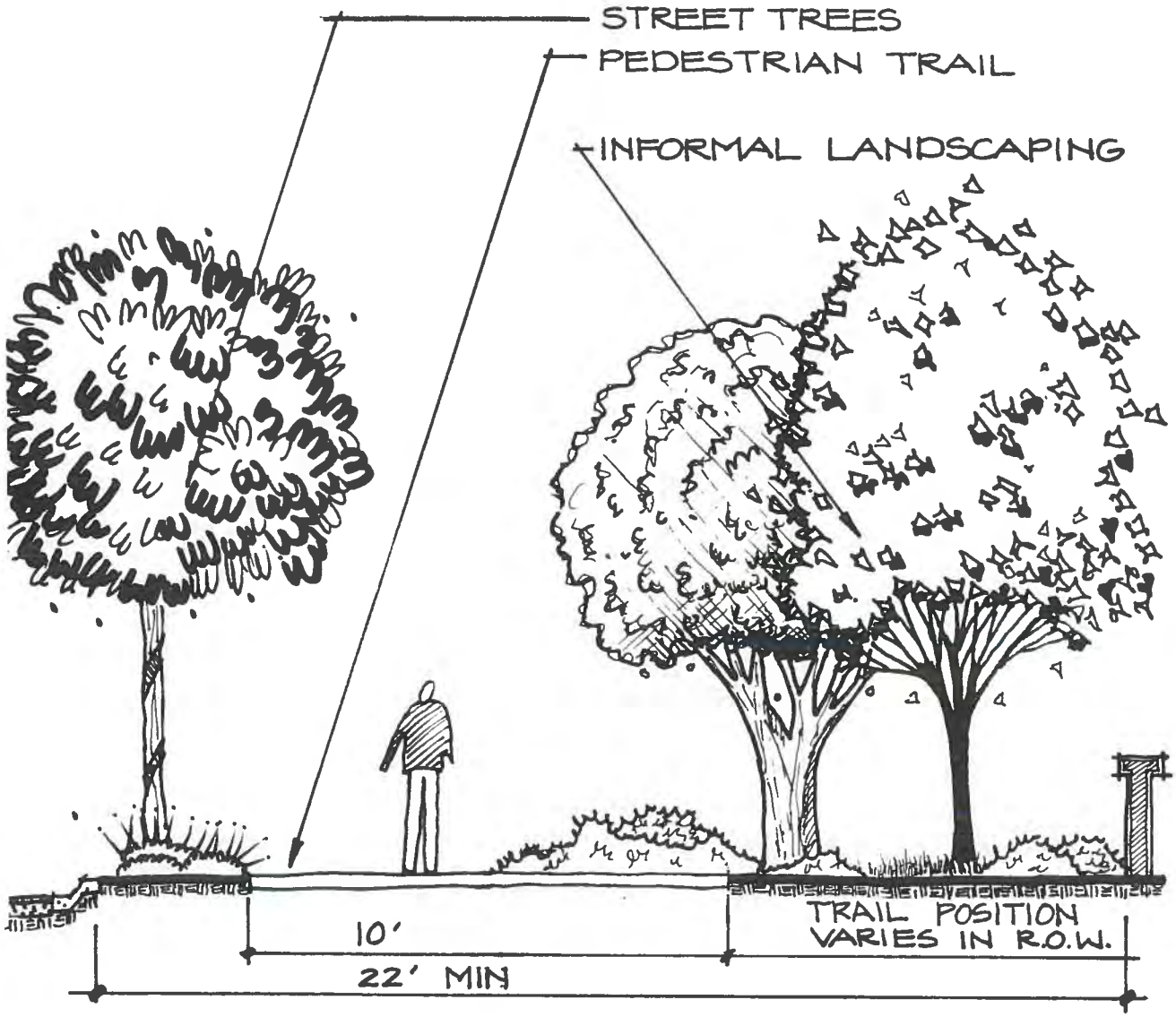

Figure IV-11

Community Trail Cross Section

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the paved trail along the project collector, devices will be included to prevent off road vehicles and trail bikes from entering the trail system.

Equestrian trails are proposed that will run through the proposed 24.3-acre City park, through some areas of the paseos and along Pigeon Pass Road. In the alignment shown on the Open Space and Recreation Plan (Figure IV-9), the equestrian trails will provide two connections to Box Springs Regional Park.

Offsite trail connections are possible, and locations for such potential connections are shown on Figure IV-9. Linkages are possible to both Sunnymead Ranch to the east and to Box Springs Regional Park to the west.

4. Undisturbed Natural Open Space

Steep slopes and bedrock outcroppings dictate that 80.5 acres (17%) of the site be left ungraded and undeveloped in a totally natural undisturbed state. Designation of these areas as open space assures that the rugged mountains west of the site can be preserved visually intact as a natural backdrop to development in the Moreno Valley. This area is proposed to be included within Box Springs Regional Park as a part of Riverside County's park system.

Open Space Standards for Development are contained in Table IV-4. These standards will insure that proposed open space areas will be provided for the use and enjoyment of future project residents and the surrounding community.

TABLE IV-4
STANDARDS FOR DEVELOPMENT
OPEN SPACE

* Open space areas shall substantially conform to the areas identified on the Open Space and Recreation Plan.

* The rocky hillside area in the northwestern corner of the site designated as "Undisturbed Natural Open Space" on the Open Space and Recreation Plan) shall remain in an undisturbed natural state in order that the integrity of the Box Springs Mountains be preserved. This area should become part of Riverside County's Box Springs Regional Park.

* Natural greenbelt paseos and an informal pedestrian trail system shall be provided as delineated on the Open Space and Recreation Plan.

* A combined bicycle and pedestrian trail shall be provided adjacent to the main project collector road as shown on the Open Space and Recreation Plan. This trail shall be sized and located according to specifications as shown on Figures IV-10 and IV-11 of the Specific Plan and according to future detailed landscape plans.

* Equestrian trails shall be provided as shown on Figure IV-9. These trails shall be designed and installed according to County trail standards for secondary trails.

* A 24.3-acre naturalized wooded open space park shall be located between planning areas 2 and 3 as shown on the Open Space and Recreation Plan. This park will become a part of the Moreno Valley park system and will be made available for public use, owned and maintained by the City of Moreno Valley.

* All existing mature groves of Eucalyptus trees as shown on the Open Space and Recreation Plan shall be preserved except as necessary to implement project roadways.

* Landscaping utilizing native or naturalizing species shall be provided within graded or disturbed areas of the natural greenbelt paseos to avoid erosion and sedimentation. Such landscaping should be of an extent and character so as not to impede the greenbelt paseo's ability to function as a flood control conveyance per Riverside County Flood Control District standards.

F. GRADING

The overall grading concept for Hidden Springs as shown on Figure IV-12 responds to the existing landform of the site. Major valley drainage courses are retained in their natural configuration except where road crossings are necessary. Conventional grading techniques will be used to prepare the flat higher elevation plateaus for single family residential development. Cutting is minimal in those areas where geologic studies have indicated a probability of shallow underlying bedrock. No grading is proposed where slopes are steep or where significant rock outcroppings exist.

Because the grading concept responds to the existing natural topography of the site, few slopes over twenty feet in height are created. All manufactured slopes between residential planning areas and natural open space areas will be contoured to blend with the existing natural slopes.

Site grading has been designed to be a balanced grading operation on a phase by phase basis. Because each phase is balanced, areas outside of each development phase need not be graded until time of construction. This significantly reduces visual impacts and potential erosion and siltation impacts.

Grading Standards for Development are provided in Table IV-5. The standards will help to insure that the basic project design concept is implemented in order to safely and sensitively implement the land use plan.

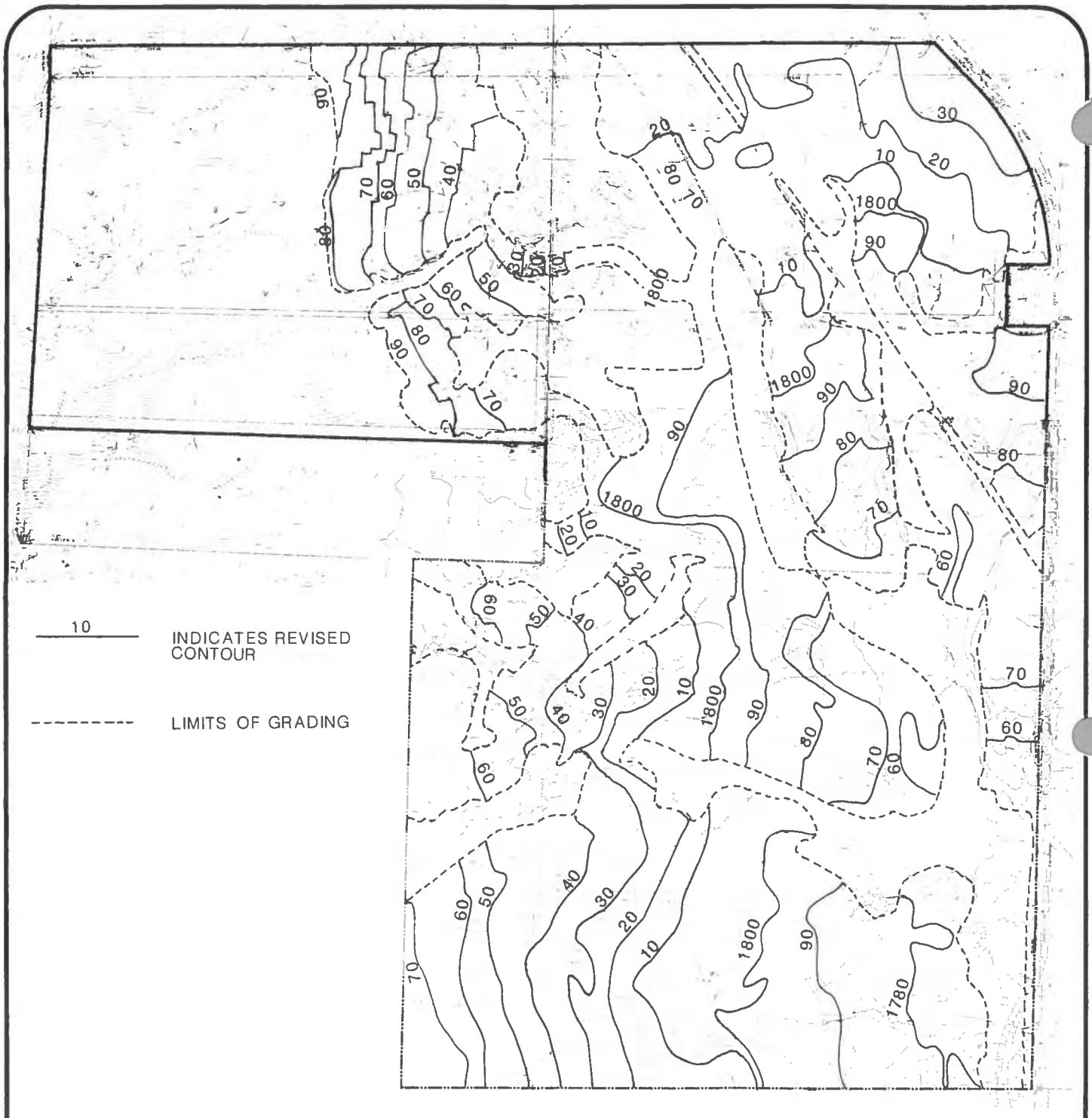

Figure IV-12

Conceptual Grading Plan

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TABLE IV-5
STANDARDS FOR DEVELOPMENT
GRADING

* Grading within each phase shall be in substantial conformance with the over-all grading concept as illustrated on the Conceptual Grading Plan.

* Slopes in excess of three feet in height shall be landscaped in accordance with future detailed landscaping plans.

* All grading activities shall conform to the County's Hillside Development Standards.

* All streets shall have a gradient not exceeding 15%.

* The major project collector shall not have a gradient exceeding 8%.

* Manufactured slopes in excess of one foot in height shall be hydroseeded. Where manufactured slopes abut natural greenbelt paseos, hydroseeding should be compatible with vegetation and landscaping in the natural greenbelt paseos.

* Cut or fill slopes exceeding one hundred feet in horizontal length adjacent to undisturbed natural greenbelt paseos shall be graded to blend with the greenbelt paseos utilizing techniques such as contour grading, rounding of tops and toes of slopes, and variable slope ratios.

* Detailed grading plans shall be prepared prior to any on-site grading for each implementing project.

* All dwelling units shall be set back a minimum of 10 feet from the toe of any slopes in excess of 10 feet.

* No grading shall be permitted in the northwestern corner of the site where slopes exceed 25%.

* All cut and fill slopes shall be constructed at inclinations of no steeper than two horizontal to one vertical.

* The applicant and/or developer shall be responsible for the maintenance of all slope planting until such time that these operations become the responsibility of other parties.

* No grading shall be permitted prior to parcel map or tentative tract map approval and issuance of grading permits.

G. PUBLIC FACILITIES AND SERVICES

1. Master Sewer Plan

A Master Sewer Plan (shown on Figure IV-13) has been developed for the project. The site configuration is such that all residential portions of the site can be served by 8" gravity lines that feed into a 12"-15" main in or parallel to Pigeon Pass Road. This main is part of the EMWD master sewer plan for the area. The 15" main in Pigeon Pass Road will connect to an approved 15" master plan sewer main in Old Lake Road.

2. Master Water Plan

A master water plan for the site is shown on Figure IV-14. The site is located within the Kalmia Pressure zone. A 16" water main will be installed in Pigeon Pass Road as a part of EMWD's master water plan. This line will initially connect to the water main in Old Lake Road and ultimately to the water main in Sunnymead Ranch Parkway.

EMWD is proposing a booster station on Pigeon Pass Road just north of Old Lake Road.

On site, a network of 12" and 8" water mains will provide service to residential planning areas and the school.

EMWD's master plan calls for an additional 2 million gallon tank in the area of the project. Though not needed at the current time, a site has been designated on Figure IV-14 where this tank might be located in the future.

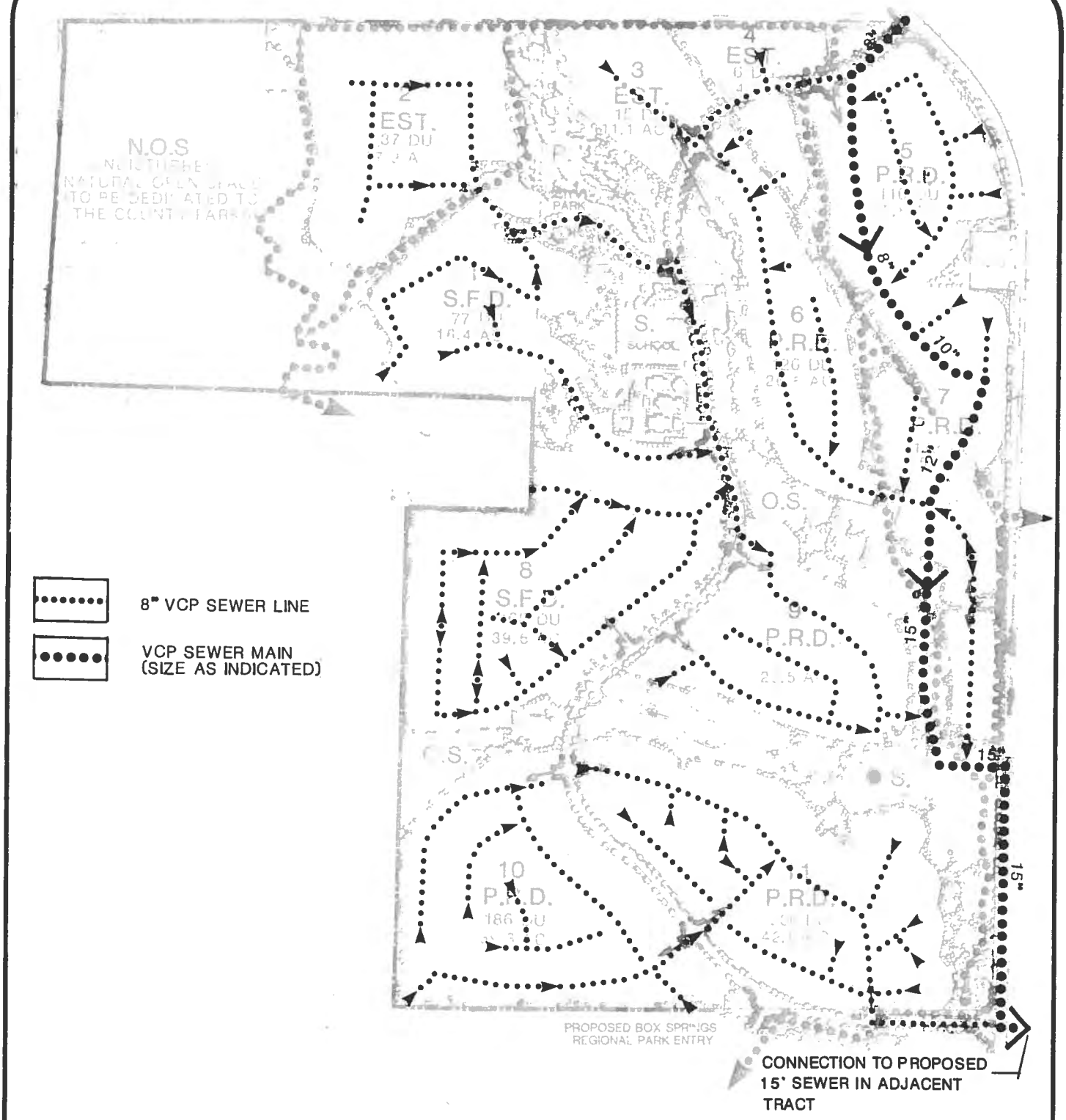

Figure IV-13

Master Sewer Plan

HIDDEN SPRINGS

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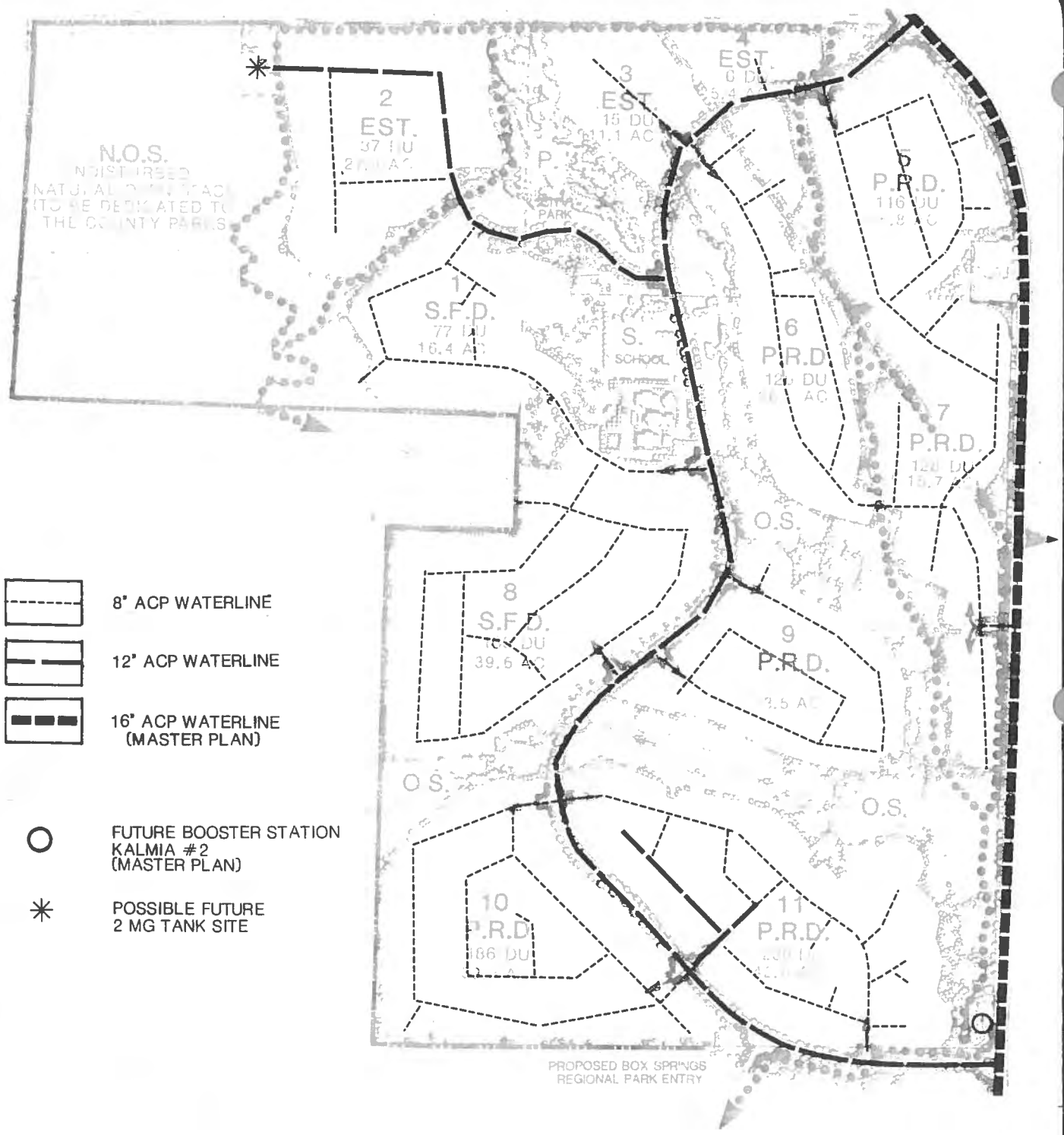

Figure IV-14

Master Water Plan

HIDDEN SPRINGS

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3. Master Drainage Plan

The land use plan retains major drainage courses of the site as greenbelt paseos in a natural condition. The grading concept for the project allows 100-year storm flows to be conveyed through these greenbelt paseos without major drainage improvements. Runoff from developed portions of the site will be conveyed through streets and underground drainage pipes. Locations of pipes and their sizes are shown on Figure IV-15. Off-site flows from the north, south, east and west will be conveyed through the site in a similar manner.

Major flows which presently empty onto the project site from the east will be intercepted where they currently cross Pigeon Pass Road and will be conveyed through the site utilizing the on-site drainage system.

4. Schools

As discussed in Section III.C.9.h., the project site is within the Moreno Valley Unified School District. When the Sunnymead Ranch (North Country) Specific Plan was approved, an elementary school site was designated on the project site. Based on recent discussions with the school district, a 6.8-acre school site has been centrally located within the project as shown on the Land Use Plan, Figure IV-6. This school will serve not only the project but also surrounding residential areas.

5. Other Community Services

Agencies providing fire and police protection, emergency services, local utilities and solid waste disposal are described in Section III.C.9, Public Facilities and Services. The developer is working with the appropriate

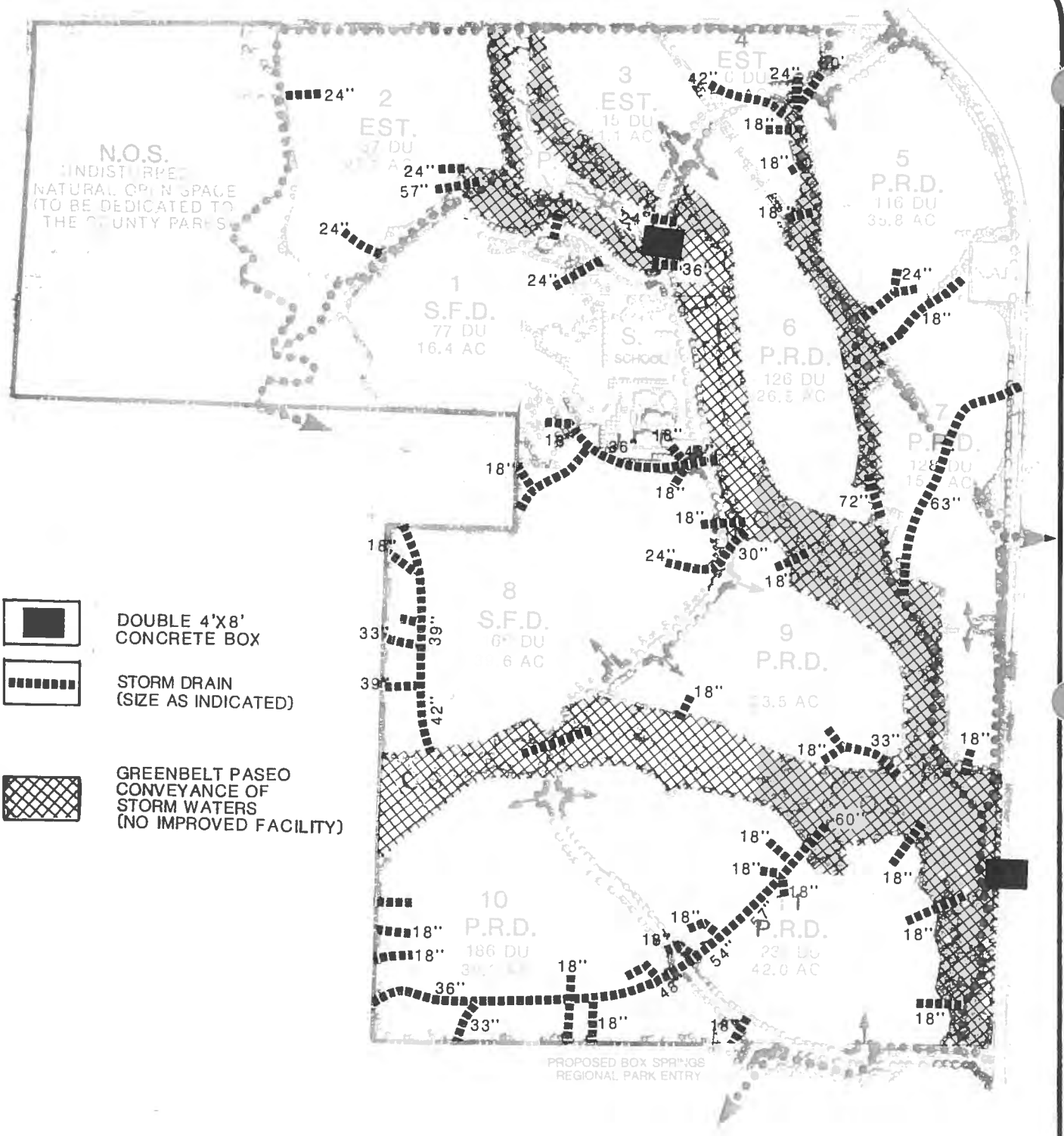

Figure IV–15

Master Drainage Plan

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agencies to assure that a satisfactory level of these services are provided for Hidden Springs.

H. PHASING

The overall phasing plan for the project as shown on Figure IV-16 depicts an estimated sequence of project phasing. This phasing is based on a logical and orderly build-out of infrastructure and roadways as well as marketing considerations. Tables IV-6 through IV-10 provide a phase by phase breakdown of uses, acres, and dwelling units. The entire project is anticipated to build out over a seven year period.

Development will begin in the southeastern corner of the site. Phase II will be located to the north just west of Pigeon Pass Road. When the southern and northeastern portions of the project are completed, development will take place in the central and western portions of the site.

Some overlap of development phases may occur if economic and market trends so dictate. Major public facility and infrastructure construction for each phase will be completed prior to construction in the next successive phase.

Earthwork phasing will approximately parallel the construction phasing. The school site, a fill area in a later development phase, can be used as a disposal site during earlier construction phases if excess fill is generated.

Phasing Standards for Development are contained in Table IV-11. These standards will insure that infrastructure and open space will be coordinated with the build-out of residential portions of the project.

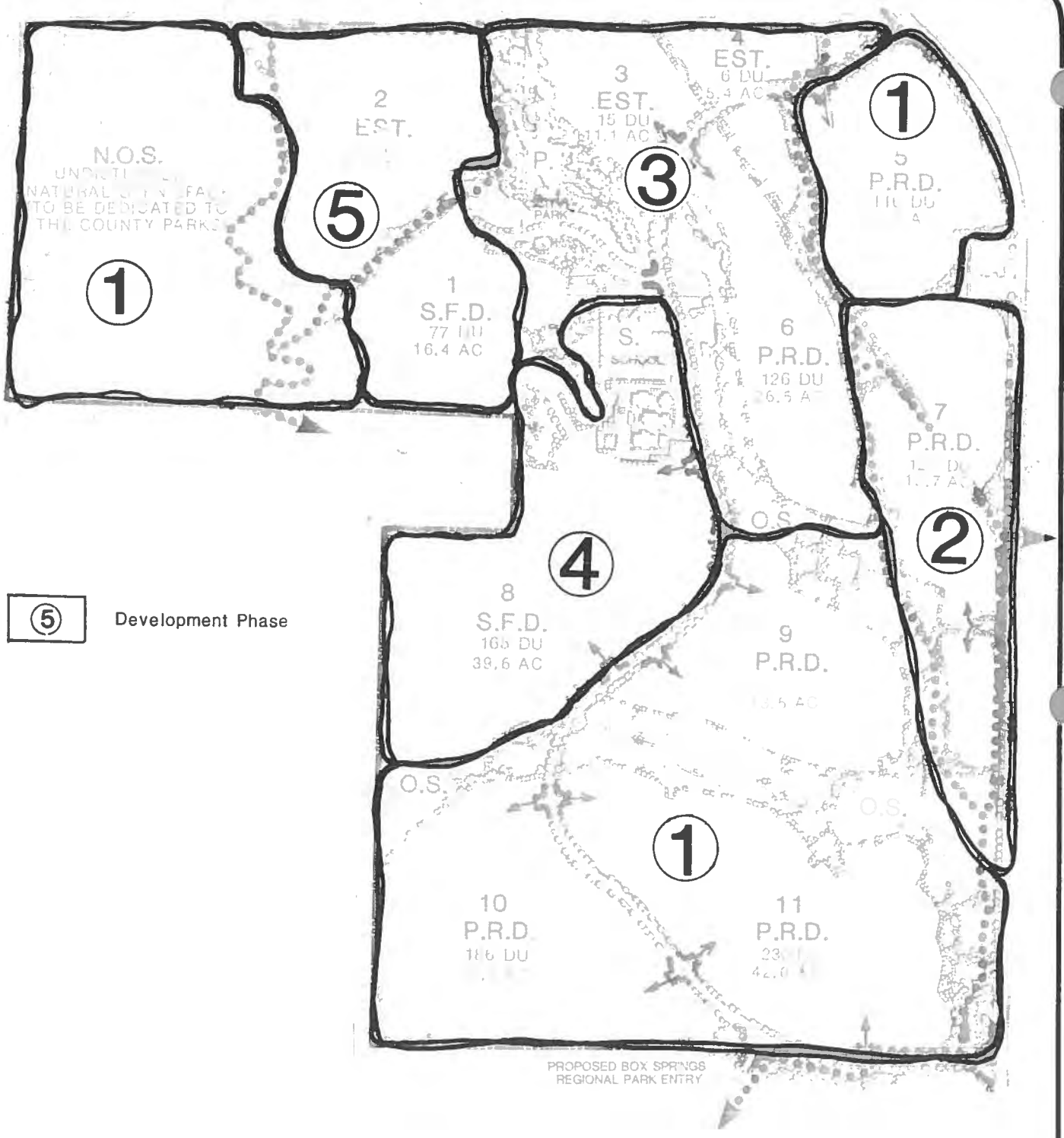

Figure IV-16

Phasing Plan

HIDDEN SPRINGS

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TABLE IV-6
PHASE I SUMMARY

PLANNING AREAS	LAND USE	ACRES	DWELLING UNITS
5	PRD	35.8	116
9	PRD	23.5	128
10	PRD	39.3	186
11	PRD	42.0	230
Residential Subtotals	5.6 du/ac	140.6	660
-	School	-	-
	Park	-	-
	Natural Greenbelt Paseo	33.0	-
	Undisturbed Natural Open Space	69.2	-
	Major Roads (66' Collector)	6.7	-
	Water Tank Site	-	-
Phase I - Totals		249.5	660

TABLE IV-7
PHASE II SUMMARY

PLANNING AREAS	LAND USE	ACRES	DWELLING UNITS
7	PRD	15.7	128
Residential Subtotals		15.7	128
-	School	-	-
	Park	-	-
	Natural Greenbelt Paseo	18.3	-
	Undisturbed Natural Open Space	-	-
	Major Roads (66' Collector)	-	-
	Water Tank Site	-	-
Phase II - Totals		34.0	128

TABLE IV-8
PHASE III SUMMARY

PLANNING AREAS	LAND USE	ACRES	DWELLING UNITS
3	Estates	11.1	15
4	Estates	5.4	6
6	PRD	26.5	126
Residential Subtotals		43.0	147
-	School	-	-
	Park	24.3	-
	Natural Greenbelt Paseo	23.3	-
	Undisturbed Natural Open Space	3.0	-
	Major Roads (66' Collector)	4.1	-
	Water Tank Site	-	-
Phase III - Totals		97.7	147

TABLE IV-9
PHASE IV SUMMARY

PLANNING AREAS	LAND USE	ACRES	DWELLING UNITS
8	S.F.D.	39.6	165
Residential Subtotals		39.6	165
-	School	6.8	-
	Park	-	-
	Natural Greenbelt Paseo	-	-
	Undisturbed Natural Open Space	2.0	-
	Major Roads (66' Collector)	-	-
	Water Tank Site	-	-
Phase IV - Totals		48.4	165

TABLE IV-10
PHASE V SUMMARY

PLANNING AREAS	LAND USE	ACRES	DWELLING UNITS
1	S.F.D.	16.4	77
2	Estates	27.9	37
Residential Subtotals		44.3	114
-	School	-	-
	Park	-	-
	Natural Greenbelt Paseo	-	-
	Undisturbed Natural Open Space	6.3	-
	Major Roads (66' Collector)	-	-
	Water Tank Site	2.4	-
Phase V - Totals		53.0	114

TABLE IV-11
STANDARDS FOR DEVELOPMENT
PHASING

* The Phasing Plan demonstrates the general order in which development will occur within the project. Development may occur simultaneously in succcessive phases provided that all phasing standards and conditions are met.

* Each phase shall include the development of residential planning areas, logical adjacent greenbelt paseos as shown on the phasing plan, and the requisite infrastructure.

* Phase I shall be developed not to exceed 660 dwelling units.

* Phase II shall be developed not to exceed 128 dwelling units.

* Phase III shall be developed not to exceed 147 dwelling units.

* Phase IV shall be developed not to exceed 165 dwelling units.

* Phase V shall be developed not to exceed 114 dwelling units.

* The total number of dwelling units shall not exceed 1214.

* Phase I - Planning Areas 5, 9, 10, and 11, units as shown on Table IV-6, Phase I Summary. Development of the "Major Collector Street" to full R.O.W. adjacent to Planning Areas 10,&11. Development of the remainder of the "Major Collector Street" to provide 20' of continuous paved roadway along its full length at the point that the dwelling unit count in either the southern (Planning Areas 10 and 11) or northern (Planning areas 4 and 5) portions of the site exceeds 110. Provision of 66.8 acres of natural undisturbed open space for inclusion within Box Springs Regional Park. Provision of natural greenbelt paseos north and east of Planning Area 11, north of Planning Area 10, north, south and east of Planning Area 9 and south of Planning Area 5. Construction of Kalmia Booster Station #2 and 16" waterline in Pigeon Pass Road and the 10" to 15" sewer main prior to occupation of any dwelling units in Planning Area 5. Construction of all interior streets with landscaping, water and sewer lines, and local drainage facilities as needed within the phase.

Table IV-11 (continued)

* Phase II - Planning Area 7 with units as shown on Table IV-7, Phase II Summary. Provision of natural greenbelt paseos west of Planning Area 7. If Phase 1 has not been completed prior to commencing Phase 2, construction of Kalmia Booster Station #2, the 16" waterline and the 15" sewer main must be completed prior to occupation of any dwelling units in Planning Area 7. Construction of all interior streets with landscaping, water and sewer lines, and local drainage facilities as needed within the phase.

* Phase III - Planning Areas 3, 4 and 6 with units as shown on Table IV-8, Phase III Summary. Half width improvement of Pigeon Pass Road to secondary standards along the eastern project boundary by completion of Phase III. Provision of natural greenbelt paseos south, east and west of Planning Area 6. Provision of the natural wooded open space park west of Planning Area 3 and north of Planning Area 8. Completion of the "Major Collector Street" to full width improvements north of the school site. Completion of the pedestrian/bicycle trail and landscaping adjacent to the "Major Collector Steet". Completion of major drainage facilities, namely a double 4'x 8' reinforced concrete box under the "Major Collector Street" just south of Planning Area 3 and a double 4'x 8' reinforced concrete box under Pigeon Pass Road 1000' north of the southerly terminus of the "Major Collector Street". Construction of interior streets with landscaping, sewers, water lines and local drainage facilities as needed within the phase.

* Phase IV - Planning Area 8 with units as shown on Table IV-9, Phase IV Summary. Provision of a school site (school site may be developed in conjunction with Phase III if needed by the School District prior to development of Phase IV). Completion of full width improvements on the remainder of the "Major Collector Street" adjacent to Planning Area 4 and the school site. Construction of interior streets with landscaping, sewers, water lines and local drainage facilities as needed within the phase.

Table IV-11 (continued)

* Phase V - Planning Areas 1 and 2 with units as shown in Table IV-10, Phase V Summary. Provision of natural greenbelt paseo between Planning Areas 1 and 2. Provision of a water tank site as needed by Eastern Municipal Water District. Construction of interior streets with landscaping, sewers, water lines, and local drainage facilities as needed within the phase.

I. PLAN IMPLEMENTATION

1. Zoning

Rezoning of many portions of Hidden Springs will be necessary to bring the zoning designations into conformance with Specific Plan land use designations. Rezoning will be requested in conjunction with Tentative Tract Maps. Tentative and Final Map applications will be considered in light of both the underlying zone requirements as well as the Specific Plan in order to determine open space and public facilities requirements of each tract.

2. Maintenance Districts and Associations

Natural greenbelt paseos, trails, entry features, and common area slopes will be maintained by a separate Master Association or an assessment district.

All project roadways will be designed and constructed to County-approved specifications and will be entered into the County system of roads for operation and maintenance.

The developed park (24.3 acres) will be entered into the City's Park and Recreation Department for operation and maintenance. If a maintenance assessment district is formed, it may assume responsibility for park maintenance.

The school site will be maintained in its current condition by the developer and/or Master Homeowner's Association until such time that the Moreno Valley Unified School District acquires the site at which time operation and maintenance of the site will become the responsibility of the School District.

SECTION V
Environmental Summary

V. ENVIRONMENTAL SUMMARY

A. Cumulative Impacts

Hidden Springs is within an area undergoing rapid urbanization as a result of demand pressures from Los Angeles and Orange County areas for affordable housing. Initially, significant growth occurred in the close-in locations of Corona, Norco and the City of Riverside. Growth restrictive measures were passed in some of these areas in efforts to preserve their rural atmospheres. These growth restrictions, coupled with low land costs and inexpensive housing prices have created the current demand for housing in the Sunnymead area.

It is estimated that approximately 29,000 units in the Sunnymead area are either under construction, have received tentative or final approval or are in the planning stage. This figure includes the 3,492 unit North Country Specific Plan, a portion of which is under construction. It also includes the 3,959-acre Moreno Valley Ranch Specific Plan, located south of Alessandro Blvd. and east of Perris Blvd. The Specific Plan/EIR document for Moreno Valley Ranch was submitted to the County in October 1984 and is presently going through the CEQA environmental review process. This project proposes 13,116 dwelling units, 52 acres of commercial use, 115 acres of schools fire protection and a civic center, as well as extensive open space and recreational facilities.

Table V-1, Proposed Developments-Sunnymead area, describes the location, number of units and status of tentative tracts within the area. In reviewing this table, it should be noted that it includes tracts which have been approved but not recorded. Sometimes a tract is never recorded and is not constructed due to lack of financing, poor market conditions, etc. Therefore, many of the approved tracts in the cumulative area may never be constructed. The approximate geographical focus of the proposed residential developments is shown on Figure II-2 Area Development Trends.

The Hidden Springs Specific Plan proposes 1350 units, 400 of which have already been accounted for in the unit totals for the North Country Specific Plan. Therefore, cumulative impacts will be addressed for the previously-discussed 29,000 units plus the increase of 953 units represented by the Griffin project. The Griffin project constitutes 4.4% of the cumulative total of approximately 30,000 units which could potentially be built in the Sunnymead area.

Analysis of Cumulative Impacts

As indicated by the above description and figures, while individual projects may contribute marginally to growth in the area, the collective projects will create an overall change in the rural and sparsely populated nature of the region. The overall increase in units and related demands along neighborhood roads and for local services and utilities will cumulatively impact the area. In addition, the development of these projects in what

TABLE V-1
Proposed Developments - Sunnymead Area

A. Projects Under Construction*

Developer/Development	Location	Units	# of Acres	Density	Tentative Tract No.
Covington	N JFK/W Lasselle	228	40	5.7	18991
Crisman/Sugarmill	E Pigeon Pass/N Swan St.	342	92	3.72	12268 I-2
Woodhaven	W Frederick/N dracoea	293	40	7.33	18930
RP Warmington	SWC Filaree/Perris	77	19.6	4.03	11261
Arden	N Cottonwood/W Frederick	127	38.1	3.33	10895
Land Development & Marketing Company/Vista Grande Estates	NWC Bay/Laselle	82	18.34	4.47	13585
William Lyon/California Classics	N Highway 60/W Pigeon Pass	79	11.5	6.87	19080
Kent Land Company	SEC Manzanita/Heacock	122	30	4.07	13161 10753
Myuscough/Riverside	E Pigeon Pass/S Manzanita	137	26	3.31	12305
Southern California Finance	S Eucalyptus/E Frederick	178	-	-	15387
Barratt	JFK/Kitching	308	80	3.85	11809
		1,973 units			

B. Projects Which Have Received Final Approval*

Developer/Development	Location	Units	# of Acres	Density	Tentative Tract No.
Hiers	N Kalmia/W Lassells	25	11.81	2.12	10271
Markborough/Sunnymead	N Nector & Manzanita/E&W	3492	-	-	19239,40,41,44,42,43
Southern California Finance	S Ironwood/W Marigold	43	33	1.48	11175
Webb	NEC Quincy/Bay	16	20	.80	10723
		3576 units			

C. Projects Which Have Received Tentative Approval*

American Dream Homes	S Bay/W Perris	27	6.7	4.03	14679
J. Anthony Development	S Eucalyptus/E Lassalle	226	40	5.65	18455
Ayres	W JFK/E Kitching	148	38	3.89	19434
Carlson	S Skylord/W Hubbard	20	5.2	3.85	14038
Check	W Fredrick/N Allesandro	15	3.59	4.18	13976
Christiano	S Manzanita/W Kitching	43	10	4.3	19369
Cook	N Manzanita/W Redlands	28	28.2	1.02	13543
Crocker-Lindley	SEC Locust/Moreno Beach Dr	28	18.26	1.53	12485
Crowell Builders	SWC Kitching/Alessandro	218	60	3.63	1877,76,11122,23 19093,16969
Danat	NEC Allesandro/Indian	116	31.50	3.68	12748
Davidson	E Kitching btwen Alessandro/Brodeiea	40	9.32	4.29	15407

Developer/Development	Location	Units	# of Acres	Density	Tentative Tract No.
Dilbeck	N Locust/W Redlands	54	34.5	1.7	17334
Dunn	W Lasselle btwn Bay/	35	10	3.5	18372
Englist	N Bay/W Heacock	40	10	4	12928
Flynn	N Ironwood/W Petlit	31	20	1.55	11457
Michael Flynn	N Ironwood/W Lasselle	16	10	1.6	11458
Fraser	N Ironwood/E Staple Chase	21	9.4	2.13	13552
Gage, Krager & Vento	S Fir/E Perris	19	5	3.8	12530
HBH Properties	S Alessandro/E Heacock	18	6.04	2.98	14157
Harris	N Kalmia/E Pigeon Pass	141	20	7.05	14387
Joe Henry	S Bay/E Graham	42	10	4.2	15320
Hollenbeck	N Ironwood/W Mathew	120	29.80	4.03	11130
Homestead Company	SWC Brodiaea/Perris	154	35.85	4.3	14002
Homestead Development	SWC Cottonwood/Kitching	284	48	5.92	19509
Huntley Land	S Cottonwood/E Kitching	149	40	3.73	16770
Huntley	NWC Bay/Heacock	39	10	3.9	18744
JFD	S Hemlock/W Quincy	81	46.6	1.74	19444
Jones Company	N Cactus/W Lasselle	112	30	3.7	17005
Jurupa Land & Investment	N Highway 60/S Hemlock/ W Indian	46	24.6	1.87	14061

Developer/Development	Location	Units	# of Acres	Density	Tentative Tract No.
Kingsway Construction	E Kitching/S Cactus	210	40	5.25	19363
Kipkin	E Moreno Beach Dr/S Kalmia	30	-	-	18019
Kramitz	N Jaclyn/E Kitching	99	28.5	3.47	13041
Labeview #1	SWC Bay/Neacock	42	10	4.2	15320
Langdon Maxwell	N Ironwood/E&W Kitching	208	39.5	5.27	12267
Lorenzo	N Manzanita/E Walther	21	22.41	.94	14884
Marshall	E Moreno Beach Dr/North and South Kalmia	-	-	-	10163
McMichael Company	SEC Brodisiae/Kitching	37	10	3.7	17387
Moreno	N Delphinium btwn Perris/ Kitching	38	10.0	3.8	16982
Moreno Valley Rancho	Iris Avenue & Perris Blvd.	66	75	.88	13396
Myerscough/Smith	E Perris/S Webster	20	+77	4.20	10624
North Coast Financial	N Highway 60 btwn Kitching & Lasselle	717	194.8	3.68	12902
North Coast Financial	N Highway 60/W Morrison	100	70.9	1.41	15441
North Coast Financial	N Highway 60 btwn Kitching and Laselle	717	194.8	3.68	12902
Ole, Nesby	S JFK btwn Perris & Indian	41	10	4.1	11266

Developer/Development	Location	Units	# of Acres	Density	Tentative Tract No.
Parkview Homes	S Frtaru/E Indian	74	20	3.70	13709
Pfeifer	S Cactus, N Delphinium btwn Perris & Indian	120	-	-	19369,13555,13978, 11526,14850
Property Builders	SEC Alessandro/Heacock	210	55	3.82	8311
Property Builders	E Graham/S Bay	80	20	4	12039
Properties Development Inc.	NWC Eucalyptus/Kitching	36	10	3.60	14856
Rosen	S JFK/Lasselle	160	40	4	12773
Sorenson	S Locut/E Kolker	45	26.5	1.7	17544
Stryker	E Quincy/S Dracen	19	20	.95	16704
Sykes	E Frederick/N Eucalyptus	46	14.5	3.17	14821
Larry Tucker	SEC Perris & Kalmia	38	10.09	3.77	12808
Urban/Lunoge	N Jaclyn/E Lombardy	14	8.26	1.69	9460
Valley Properties	E Nason/S Eucalyptus	23	35	.66	13079
Wainscott/Sykes	S Cactus btwn Perris/ Kitching	80	20	4	12230
Wainscott	S Cottonwood/E Lasselle	18	10	1.8	17445
Wainscott	N Jaclyn/E&W Kitching	38	10	3.8	19360
Watkins Realty	SWC JFK/Perris	161	36.21	4.45	19210
Webb	S Cactus/W Perris	40	9.39	4.3	17457

Developer/Development	Location	Units	# of Acres	Density	Tentative Tract No.
Westerly Development	S Ironwood/E Perris	448	70	6.40	18784
Wheatley	S Ironwood/E Pettit	68	36.7	1.85	11841
Wheatley	N Ironwood/W Quincy	157	92	1.71	14186
Woodhaven	S Ironwood/E Pigeon Pass	142	32.5	4.37	19363
Woodhaven	S Ironwood/W Marigold	142	35	4.06	19307
Woodhaven	S Manzanita/W Heacock	511	79	6.47	18512
--	E Morton Rd/S Daun	-	-	-	10626
--	SEC Cottonwood/Heacock	88	25	3.25	11206
--	S Delphinium/N JFK btwn Perris & Kitching	178	-	-	11752
--	SWC Perris/Genitian	300	-	-	14846
--	W Lasselle/N Brodiaea	195	-	-	17867
		8806 units			
D. Projects in Planning State*					
Cal American Financial	S Kalmia/E Hubbard	76	24.04	3.16	19393
Cal American Financial	N Kalmia/W Lasselle	61	32	1.91	19596
Fenmore	SEC Brodiaea/Nason	30	12.2	2.46	10578
Griffin Homes	E Pigeon Pass/N Ironwood	225	40.5	5.56	19551

Developer/Development	Location	Units	# of Acres	Density	Tentative Tract No.
Koryilo and Ross	Draceia/W Kitching	40	9	4.45	19500
MW Investments	NW Highway 60 & Pigeon Pass	128	30.5	4.20	19090,91
Robert Mayer	N Box Springs Rd/ E Morton.	251	60	4.18	19520
Owens Kennedy	S Manzanita/W Perris	80	53	1.51	19549
Petkin Development	S Ironwood/E Kitching	45	11.2	4.02	19496
Starwood Corporation	W Perris/N Delphinium	32	8.3	3.86	19593
—	N Highway 60/W Graham	-	-	-	11874
--	S Glencrest/E Perris	20	5	4	12055
--	S Ironwood/W Buckthorn Dr	-	-	-	13372
--	N Ironwood/E Staple Chase	-	-	-	13547
--	NWC Kitching/Cactus	62	-	-	19141, 42, 19143
D. Projects in Planning Stage*					
Lieser	NWC Cactus/Indian	-	-	-	19557
Petkin Development	--	137	40	3.43	19208
Petkins Development	--	39	9.55	-	19377
—	SWC Delphinium/Perris	20	-	-	11108

Developer/Development	Location	Units	# of Acres	Density	Tentative Tract No.
--	S Manzanita/W Hubbard	97	-	-	11221
--	S Dracaea/E Quincy	19	-	-	12008
--	SEC Alessandro/Morrison	20	-	-	12301
--	N Highway 60/E Nason	150	-	-	12681
--	S Manzanita/E Perris	14	-	-	14010
--	E Redlands/N Manzanita	-	-	-	14482
--	SWC Delphinium/Kitching	38	-	-	14966
--	S Brodiaea/E Kitching	42	-	-	15254
--	SEC Ironwood & Quincy	20	-	-	15690
--	E Kitching/N Iris	-	-	-	16950
--	NEC Moreno Beach/Bay	47	-	-	17731
--	N Kalmia/E Kitching	-	-	-	18128
--	N Highway 60/E Pettit	49	-	-	19494
		1843 units			

* As of October, 1983
Source: Market Profiles

is currently a semi-rural, but steadily developing, area could result in conversion of adjoining lands to similar uses. Therefore, ultimate urbanization of the project vicinity could potentially indirectly influence expansion throughout the area. Areas for which cumulative impacts may be particularly noteworthy are discussed below.

1. Landform, Geology, Soils & Seismicity

Impacts resulting from grading for construction of numerous development projects in the area will alter the natural topography of the region. Cut and fill operations will be necessary in areas designated for development of lots and pads. A large portion of the Sunnymead-Edgemont area, especially south of Highway 60, is comprised of relatively flat, agricultural land which will not require extensive cut and fill operations, thereby minimizing the impact upon landform in the immediate area. Due to the presence of regional faults, the potential exists for impacts as a result of a seismic episode.

2. Hydrology and Drainage

Drainage patterns and the quality, velocity and composition of runoff will be altered by large scale grading of areas planned for construction, as well as the creation of impervious surfaces (such as roadways, driveways, parking lots, etc.) Runoff entering streams will contain minor amounts of pollutants typical of urban use, thereby impacting the downstream water quality in the area. Siltation due to exposed ground surfaces from grading may also affect downstream water quality.

Infiltration of water used for irrigation of landscaped areas and golf courses throughout the vicinity may affect the abundance and distribution of groundwater. It is anticipated that storm drain systems will be constructed in accordance with the County's Master Drainage Plan in order to mitigate impacts on local drainage patterns.

3. Vegetation and Wildlife

Construction of various projects on the vicinity will result in removal of a large portion of native and introduced vegetation and wildlife habitat areas due to grading for development. As vegetation is removed, wildlife in the vicinity may be displaced, causing migration of wildlife to adjoining habitats, including open space areas located within respective developments. This migration will crowd and disrupt local wildlife population. Although increased competition and predation will act rapidly to return population levels to habitat carrying habitat capacities, either displaced or local wildlife will be lost.

Increased noise, dust, exhaust emissions and general construction activity may also disrupt some wildlife habitats in the areas of proposed projects. Human use in the region will also alter the existing biological habitat.

4. Cultural and Scientific Resources

Development in the area will disturb any existing archaeological, paleontological and historical resources, due to grading and excavation activity unless these areas are preserved as natural open

space. However, if a qualified historian analyzes any potentially significant structures and if certified archaeologists and paleontologists are present, where necessary, during grading operations, these impacts may be largely mitigated. The impacts could be considered positive impacts, due to the discovery of resources which would have not otherwise been evaluated or uncovered. It is possible that grading and excavation in the area will uncover valuable archaeological and paleontological resources which would contribute to knowledge of the history of the Sunnymead-Edgemont area.

5. Aesthetics

Development of the proposed projects may result in the loss of aesthetically valuable open space and agricultural areas. Although open space uses will be maintained in many of the projects in the area, the scenic, rural character and visual appearance of the region will be altered.

Development of urban uses will necessitate grading that will alter topography and require removal of vegetation in existing rural areas in order to build proposed residential units. Therefore, it is anticipated that the scenic qualities and visual resources of the area will be affected, as the area urbanizes.

6. Land Use

Extensive urban development planned in the region will necessitate alterations in zoning and General Plan designations, to create parcels where urban

uses are permitted in the area. It may be anticipated that development of numerous projects planned in the region would influence the present atmosphere of passive rural open space and scattered development which typifies the outlying areas of Sunnymead and Edgemont. However, it is anticipated that plans for preservation of large open space areas and recreational areas within these various projects may retain the existing rural open space atmosphere as much as possible.

Although these proposed projects will influence the current open space character of the area, it is expected that uses proposed will be compatible with the current atmosphere of urban use in Sunnymead and Edgemont. Any contrast in lifestyle accommodated by existing and proposed development may be mitigated by the fact that provision of variety of additional projects in the area will permit all local residents to enjoy access to a diversity of recreational and commercial facilities. Nonetheless, development projects proposed for the project vicinity will have the potential for inducing growth within the neighboring lands. (See Section V.F., Growth-inducing Impact of the Proposed Action).

7. Socio-Economic and Fiscal Analysis

The combined proposed projects will introduce approximately 30,000 d.u., accommodating 77,400 persons. While providing a greater diversity of housing units, the combination of projects will create an impact upon existing commercial, industrial, recreational facilities and local utility and service facilities. However, it is

expected that the various developments planned in the area will provide for these uses to accommodate the added population. It is also anticipated that applicants will cooperate with respective agencies to assure provision of adequate utilities and services. (See Section III.C.9., Public Facilities and Services).

8. Circulation and Traffic

Ultimate development of 30,000 dwelling units in the region will generate a large increase in local traffic volumes. Approved and proposed open space, recreational, commercial and industrial land uses may also be expected to generate additional traffic in the area. Traffic generated by the developments will impact existing roadways, necessitating the expansion and improvement of existing and construction of new regional roadway networks in order to accommodate additional traffic flows. Within developments, it will be necessary to install circulation systems with sufficient capacity to accommodate traffic generated, in coordination with the regional roadway system.

While the cumulative impact of all these projects may be viewed as a substantial increase that will necessitate expansion and improvement of the existing road network, it is important to reiterate that County of Riverside planning goals reflected in the Master Plan of Arterial Highways, include programming major roads in the area for incremental widening and/or extension to serve expected growth in surrounding areas. Therefore, it appears that

improvement of the system of streets and highways in the area responds to County planning goals that anticipate local growth.

9. Climate and Air Quality

It is possible that the proposed project will influence micro-meteorological conditions in the area to a minor degree. Construction of numerous additional projects will cumulatively impact air quality in the vicinity. Air quality will be temporarily degraded during construction activities which occur separately or simultaneously. However, the greatest cumulative impact on the quality of the regional air cell will be incremental addition of pollutants from increased traffic in the area and increased consumption of energy by inhabitants of the various new projects.

10. Noise

Noise during construction activities will impact noise conditions in the region on a short-term basis. It is expected that any cumulative construction noise impact would be mitigated, as the proposed projects are physically separate for the most part, and development will not occur simultaneously within a concentrated area. The major cumulative noise impact in the area would result from the increased traffic volume in the vicinity. Any significant noise increase in the area would be directly related to the incremental increase in traffic volumes.

11. Utilities and Services

Increased development in the Sunnymead-Edgemont vicinity will incrementally increase the demand for public utilities and services, including water and sewer service; electricity and natural gas services; telephone and cable television services; police and fire protection; school and park facilities; public transportation; hospital and ambulance service; and solid waste disposal service. This increased demand may be viewed as a growth-inducement to existing systems, which may result in expansion or extension of existing service facilities to serve all anticipated projects.

Water and Sewer Service

Increased expansion in the project area will increase the demand from the Eastern Municipal Water District for water and sewer service. Additional line and facilities will be required and improvement districts formed to provide this service effectively to all developments in the area. Preliminary design work has been done for ultimate expansion of the Sunnymead Regional Water Reclamation Facility to 20 MGD, which would serve a population of 200,000-250,000.

Annexation fees as well as water and sewer service fees charged on a per unit basis will be applied to all units built. These fees should cover the costs of needed expansion.

Electricity and Natural Gas Service

The addition of 30,000 dwelling units to the area will create a need for additional electricity and natural gas service. Southern California Edison and the South Coast Air Quality Management District (SCAQMD) utilize an estimated demand rate of 5,838 Kwh/unit/year. With an estimated cumulative total of 30,000 dwelling units in the project area, the ultimate demand for electricity may reach 175,140,000 Kwh/year. The Southern California Gas Company and the SCAGMD generally utilizes a rate of 6,665 cubic feet/d.u./month. Considering the estimated cumulative dwelling unit total of 30,000 d.u., approximately 199,950,000 cubic feet/month of natural gas could be consumed by all projected dwelling units in the vicinity. Additional Southern California Gas lines, as well as Southern California Edison lines, would be required to provide these services to the area.

Police and Fire Protection

Growth in the project area will increase the demand for fire and police services provided by the County of Riverside and State of California law enforcement and fire protection agencies. It is expected that each project applicant will cooperate with local jurisdictions to assure that sufficient effective services are provided to serve each project, thereby insuring a safe environment throughout the area. Additional facilities which applicants may cooperatively help support include additional stations and personnel.

School and Park Facilities

Development of the Sunnymead area will increase area population, and therefore, the demand on school and park facilities. It is expected that each development will cooperate with local school districts so that sufficient facilities are collectively provided to accommodate students generated. It is anticipated that additional park facilities will be provided within the respective developments to alleviate demands upon existing parks.

Hospital and Ambulance Services

Expansive development in the project area may necessitate enlargement of existing facilities as well as expansion of ambulance service.

Solid Waste Disposal

Additional solid waste generated in the area by planned developments is expected to shorten the life span of the County of Riverside Badlands dump site and other dump sites which may be affected. It may be necessary to utilize additional landfill sites to alleviate impacts upon the existing site in the future.

B. Unavoidable Adverse Impacts

Ultimate development of the proposed project will result in certain unavoidable adverse impacts. This section summarizes those impacts and references those mitigations cited in Section

III.C. Step Two, Environmental Setting, Impacts and Mitigations. The significance of each impact depends upon the extent to which these mitigation measures are incorporated into the project design.

1. Landform, Topography, Geology, Soils & Seismicity

Grading for the project will involve cut and fill operations which will alter existing landform, though the preservation of 75.5 acres of natural open space in the hillsides in the northwestern portion of the site will minimize the need for extensive grading. Also, the existing drainage courses will be retained in their natural condition. Ground surfaces which are temporarily exposed during grading may be eroded. Due to the presence of regional faults, the potential exists for structural damage as a result of earthquake activity. There will also be a permanent loss of soils which, in themselves, are suited to agricultural production. (See Sections III.C.1 and III.C.2 Landform/Topography, Geology, Soils, Seismicity Mitigations).

2. Hydrology, Flooding and Drainage

The volume and peak flow of surface runoff generated on-site will increase as a result of the creation of impervious surfaces, such as roadways, driveways, parking lots and other urban uses. Run-off entering the storm drain system will contain pollutants typical of urban use. Groundwater recharge may be somewhat reduced by project development. (See Section III.C.3 Hydrology, Flooding and Drainage Mitigations).

3. Noise

Short-term noise from construction activities may temporarily impact areas on the project site and in proximity to the project site. Noise related to future daily traffic volumes on Pigeon Pass Road and general urban activities on the project site will increase local acoustical levels, affecting the project site and surrounding areas. (See Section III.C.4 Noise Mitigations).

4. Biology

Implementation of the Hidden Springs Specific Plan, including grading and construction, will necessitate the removal of vegetation and wildlife habitats in areas where urban uses are planned. Increased noise, dust, exhaust emissions, and general construction activity will disrupt some wildlife habitats in the immediate project vicinity and at Box Springs Regional Park. Human use in the area will also alter the existing biological habitat. A loss of habitat potentially suited to the Stephen's kangaroo rat will occur. (See Section III.C.5 Biology Mitigations).

5. Cultural, Historical Resources

The potential for disturbance or destruction of unknown archaeological and paleontological resources during earthwork and grading operations exists. If removed without proper recordation, valuable cultural and scientific resources could be eliminated. A specialist should be available to

monitor grading activities and salvage specimens accordingly. (See Section III.C.6 Cultural, Historical Resources Mitigations).

6. Climate and Air Quality

Air Quality in the project area will be temporarily degraded during construction activity, and the quality of the regional air cell will be incrementally degraded by pollutants from increased traffic and energy consumption. (See Section III.C.7 Climate and Air Quality Mitigations).

7. Circulation, Traffic, Scenic Highways

Development of the Hidden Springs Specific Plan will necessitate construction of an on-site roadway system. The project proposal entails construction of a collector system designed to serve vehicles from the proposed 1350 dwelling units. Traffic volumes will increase on existing and planned roadways in the project area, contributing to congestion in the vicinity and underscoring the need for local improvements, including traffic signals and other traffic control measures. (See Section III.C.8 Circulation and Traffic Mitigations).

8. Public Facilities and Services

The demand for public utilities and services will be incrementally increased as a result of project implementation. These demands may result in the expansion or extension of existing facilities to serve the project site. (See Section III.C.9 Public Facilities and Services Mitigations).

9. Aesthetics/Visual Analysis

The scenic character and visual appearance of portions of the project site will be altered, providing views of urban use from areas on-site and from surrounding areas. The percentage of the property which will remain in the public view as open space will be reduced, thereby reducing the overall aesthetic value of that area of the County. However, the 75.5 acres of undisturbed natural open space will offer aesthetically pleasing views from areas on-site and from surrounding areas as will the 110 acres of greenbelts, parks, trails, etc. (See Section III.C.10 Aesthetics, Visual Analysis Mitigations).

10. Energy

Implementation of the Hidden Springs Specific Plan will increase pressure on energy resources in the project area and decrease the amount of natural open space resources on the project site. Energy consumption will increase on both a temporary and long-term basis through short-term consumption of energy during project construction and long-term operation and maintenance of the project site. (See Section III.C.11 Energy Mitigations).

11. Land Use

Project implementation will result in a permanent commitment of the land to the proposed urban uses. Currently, portions of the site are in agricultural use. This area will be converted to urbanized use,

resulting in a net loss of open space and potential agricultural use on a Countywide basis. The proposed project will cause an increase in area population and housing inventories, resulting in an increased demand upon public services and resources. An estimated 3,491 persons will reside on the project site in an estimated 1350 dwelling units. (See Section III.C.12 Existing and Adjacent Land Use Mitigations).

C. Alternatives to the Proposed Project

Presented in this section are several project alternatives. Both residential and non-residential alternatives are presented. Each alternative has been measured against the project objectives to measure changes in impacts. The residential alternatives are compared in a matrix. (See Table V-2, Residential Alternatives Matrix). It is the intent of this chapter to describe reasonable alternatives to the project which could feasibly attain the project objectives.

1. "No Project" Alternative

The "no project" alternative would retain the site's current land use as privately-owned open space for at least a limited period of time, allowing for future land use options. The advantage of the "no project" option is that retention of open space uses and scenic resources would avoid any adverse physical, biological and human environmental impacts associated with ultimate development. Also, the 134 acres of land which are presently being cultivated with grain would remain in agricultural use as long as such

TABLE V-2
RESIDENTIAL ALTERNATIVES MATRIX

ALTERNATIVE	# OF DUS	TOTAL AVG DAILY TRIPS	TOTAL VEHICLE MILES TRAVELLED	TOTAL POPULATION (2.58/DU)	PROJECTED # OF STUDENTS (.64 HOUSEHOLD)	WATER & WASTEWATER (GAL/DAY)	NATURAL GAS (GU.FT./MONTH)	ELECTRICITY (KwH/YR)
Proposed Project	1,353	14,860	163,500	3,491	866	698,000 gal.water 349,000 gal. sew.	9,017,700	7,899,000
No Project	0	0	0	0	0	0	0	0
Lower Density Alternative	482	5,132	54,400	1,245	308	249,000 gal. water 124,500 gal. sew.	3,212,530	2,813,900
Increased Density Alternative	3,864	41,140	436,090	9,970	2,470	1,994,000 gal. water 997,000 gal. sew.	25,753,560	22,558,030

use proves to be economically viable. However, the beneficial impacts, primarily related to the provision of housing, would be lost were the "no project" alternative implemented.

The southern 279 acres of the project site are presently part of the approved North Country Specific Plan, which would permit construction of 400 single-family units on the southern portion of the site. Zoning on the remainder of the site would allow construction of 82 single-family units. Therefore, the "no project" alternative would most likely be replaced, at some point in the future, by the uses allowed by the present zoning. This potential land use is discussed as Alternative No. 2 - Lower Density Residential Use.

Below is a summary of anticipated "no project" impacts.

Landform/Topography: The natural landform of the site would not be altered. Geotechnical hazards on-site would not be affected.

Air Quality: The site would not become a source of local or regional air pollutants. It cannot be said with certainty that the regional air quality burden would be reduced, however, since the development which would have occurred on-site may be located elsewhere in the region.

Hydrology: The existing drainage and rate of flow would not be altered.

Cultural/Scientific Resources: Historical resources located on the site would remain in their present state.

Aesthetics: Open space values and views would be maintained on the site.

Land Use: This alternative would continue the existing agricultural use of the property. Implementation of various aspects of the General Plan elements would be reserved for sometime in the future.

Transportation/Circulation: The project site would not generate any additional increase in the amount of traffic distributed onto the local circulation network.

Housing: No additional housing opportunities would be created to satisfy the local and regional housing demand.

2. Lower Density Residential Use Alternative

As discussed under the "No Project" Alternative, present zoning and Specific Plan approvals would permit construction of 482 single-family units on the 483-acre project site, or an overall density of one unit per acre. This will constitute the "Lower Density Residential Use Alternative" for the purposes of this evaluation. This alternative would be accompanied by a population of approximately 1,240 persons. A lower density residential development would reduce, but not eliminate certain environmental impacts in the immediate area, such as those related to traffic

and circulation, noise, air quality, public services and utilities and energy consumption. However, any lower density utilization of the subject property would do little to reduce impacts related to landform alteration and associated grading, hydrology, biology and aesthetics. (See Residential Alternatives Matrix). This alternative is more compatible with the densities of surrounding estate lots, which range in size from one to five acres. While the project proposal includes a balance of residential options, it is expected that this alternative would pose economic penalties which may affect the applicant's ability to market the lower density product.

3. Increased Density Residential Use Alternative

The County of Riverside Comprehensive General Plan has two urban residential land use categories, which are Category I - Heavy Urban (8-20 d.u./acre) and Category II - Urban (2-8 d.u./acre). The project as presently proposed falls within Category II. For purposes of this discussion of alternatives, a Category I project with an overall density of 8 d.u./acre is utilized. Given the 483-acre project site, this increased-density residential use alternative would include 3,864 dwelling units.

Higher density utilization of the subject property in terms of more intensive residential development would result in proportionally greater impacts on the physical, biological and human environments. Higher density use would require zone change approvals from the County of Riverside and would intensify project impacts in the areas of landform, hydrology, biology and aesthetics. The amount of

open space to ultimately be retained would also be reduced. The current proposal is favored, in that it offers increased amounts of open space and recreational opportunities, including a 21-acre wooded park. A higher density alternative would also involve a higher population increasing impacts in the areas of traffic, noise, utilities and services. (See Residential Alternatives Matrix). This alternative would also require the use of higher density product types that are currently not in demand, and which would be incompatible with surrounding uses.

4. Commercial or Industrial Use Alternative

A large scale commercial use or an industrial land use are felt to have several adverse impacts such as generation of unacceptable traffic and noise levels and production of odors and an aesthetically offensive appearance. Such land uses are felt to be inappropriate and unnecessary due to the potential incompatibility with existing and proposed surrounding land uses. In addition, a regional commercial center has already been designed for location at Highway 15 and 60, where regional access is superior. Also, the North Country Specific Plan provides for a 15-acre community commercial site at the intersection of Old Lake Road and Sunnymead Ranch Parkway to be constructed when the demand warrants. It is not anticipated that another such facility could be supported as part of the Hidden Springs project.

5. Agriculture Use Alternative

The project site is currently being used for barley production. Due to the lack of affordable irrigation water, only dryland farming can be supported. Many portions of the project site are unsuited to agricultural use, due to poor soil conditions such as erosion hazard, shallow depth, low natural fertility or coarse soil texture. Long-term use is not considered economically feasible. Impacts of this alternative would be similar to those of the "No Project" Alternative (see #1 above).

D. The Relationship Between Local Short-Term Use of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

The project site currently supports essentially agricultural uses and provides passive open space and wildlife habitats. If the proposed project is implemented, various short- and long-term impacts will affect the immediate vicinity and the region in general. Most short-term impacts would relate to construction, including increased noise, dust and air pollutants. The proposed project would convert the site to urban uses. Increases in the local population would have long-term impacts on traffic, air pollution, noise, public/private services, and utility consumption. Natural open space, wildlife habitat, and agricultural acreage would be reduced. (See Section III.C., Step Two Environmental Setting, Impacts and Mitigations).

The proposed project is designed to provide a range of housing types in the area; this will enhance and support the long-term productivity of the region. Local government planning must analyze the long-term local and regional economic production/consumption ratios to maintain an adequate bredth of employment while providing housing for this area. The increased property taxes and various monies spent by project residents for local services and products will benefit the area's economy over the long term. (See Section VI.F., Technical Appendices - Fiscal Impacts Analysis).

The proposed project will alter the aesthetic character of the area. The agricultural/open space environment will be replaced by an urban setting. The overall visual quality of the area will be dependent upon the implementation of the design features as described in this Specific Plan. (See Section IV. Specific Development Plan).

The ultimate development of this project will produce cumulative long-term environmental consequences that are associated with the urbanization of outlying areas. These environmental factors must be carefully weighed against maintenance of the economic and housing goals of Riverside County.

E. Irreversible and Irretrievable Commitment of Energy Supplies and Other Resources Should the Project be Implemented

Specific Plan approval would constitute the County of Riverside's intent to allow development of the project site as proposed. Implementation of the proposed project would result in the following primary environmental changes:

1) Permanent commitment of land which will be physically altered to create access roads, home sites, open space, recreational, commercial, light industrial and other various support facilities.

2) Removal of portions of the existing biological cover in order to develop various aspects of the project.

3) Disruption of archaeological or paleontological resources. This could be mitigated, however, by salvaging, studying and preserving significant resources and artifacts prior to final development.

4) Alteration of the human environment as a consequence of the development process. The project, which represents a commitment of land to urban use, continues the current trend toward urbanization in the project area.

5) Increased requirements for public services and utilities by the project's residents, representing a permanent commitment of these resources.

6) Utilization of various new materials, such as lumber, sand and gravel for construction. Some of these resources are already being depleted

worldwide. The energy consumed in developing and maintaining the site may be considered a permanent investment.

7) Loss of agricultural resources due to urban development. However, it has been determined that continued agricultural use of the project site is not viable.

F. Growth Inducing Impact of the Proposed Action

This project will increase the population of the area by approximately 3,491 persons. This density is in compliance with the General Plan designation of "An Area not Designated as Open Space". The density proposed is also in compliance with the Land Use Policies of the Edgemont/Sunnymead and the Riverside/Corona/Norco planning area land use policies as stated in the Comprehensive General Plan.

Resulting from the development of a residential community are the growth impacts to the systems which would support such a community, including the road system, utilities and services, commercial and economic institutions which are demanded by a new community, as well as additional medical, educational and cultural needs, such as hospital, school systems and museums and libraries. (See Section III.C.9., Public Facilities and Services). However, many of these needs will be met through the development of the adjacent North Country Specific Plan, now referred to as Sunnymead Ranch. Project phasing is expected to help regulate the rate of growth.

Secondary impacts from this development will generally be felt in the Southern California area and especially in Riverside County. Within the western Riverside area, much of the available land has been approved for future residential development, along with lesser amounts of commercial and industrial uses. In the vicinity of the project site, many developments are proposed which, combined with the subject project, would cumulatively result in adverse impacts to such environmental elements as air quality, landforms and biology as well as to local circulation systems and local utilities and services. (See Section V.A., Cumulative Impacts).

The Hidden Springs project site represents an extension of urban development into the presently rural Pigeon Pass Valley. The project is an extension of the development embodied by the Sunnymead Ranch (North County Specific Plan) as Griffin project residents will utilize the commercial, recreational public facilities, etc. of the Sunnymead Ranch. The northerly extension of water and sewer facilities as well as improved access to Pigeon Pass Valley may facilitate development of estate lots in the area and may encourage more intensive development and potential re-zoning.

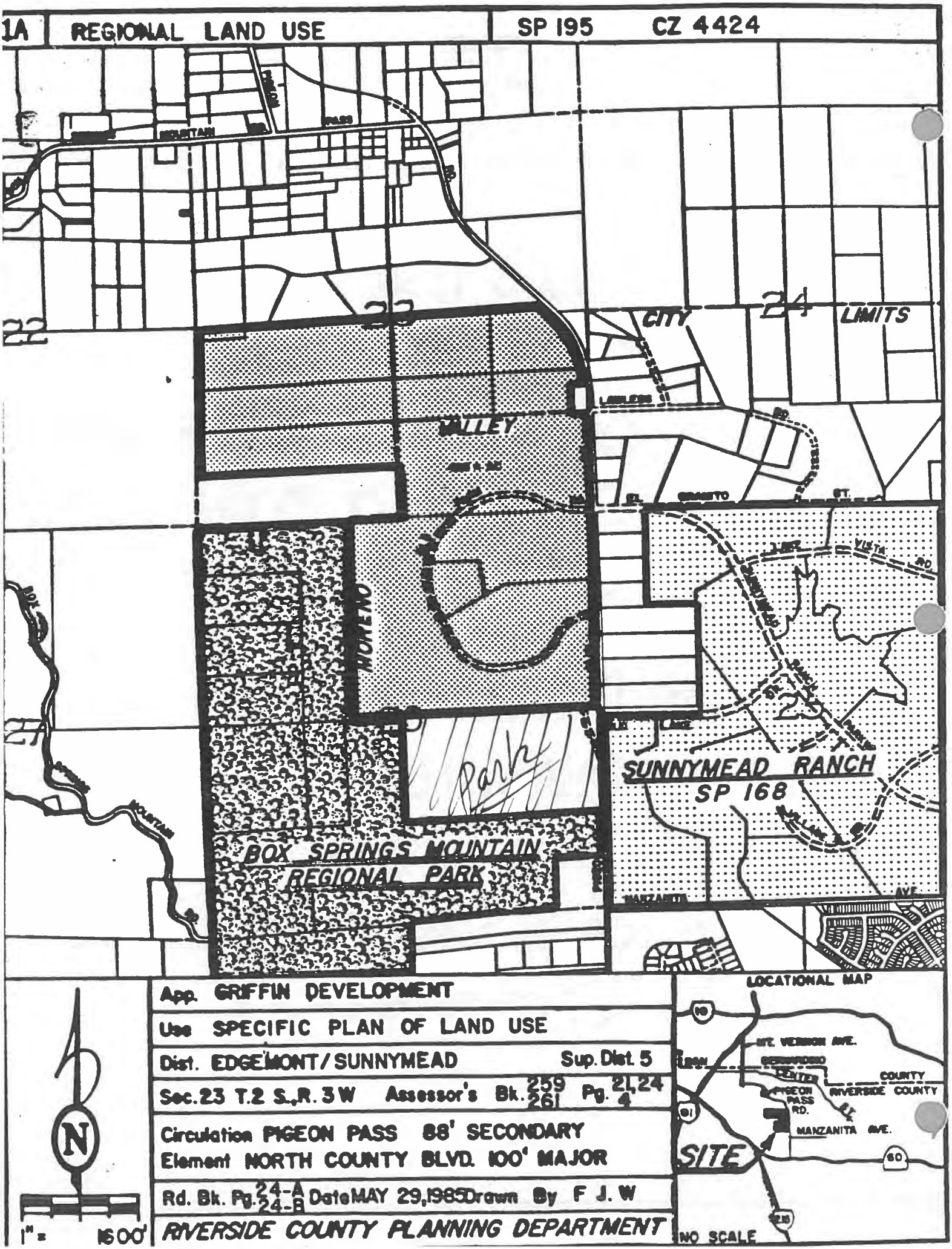
It should be recognized, however, that the estate lots and their associated housing is of relatively recent construction which indicates that area residents are committed to the low density lifestyles and are not likely to resubdivide in response to the proposed project. In this respect, the project as proposed represents an infill

transition between the more urban densities of the northern Moreno Valley (eg. up to 12 du/ac in North Country) and the equestrian-oriented estate lots north of the project site.

SPECIFIC PLAN EXHIBITS

- LAND USE
- ZONING
- OPEN SPACE/CONSERVATIO
- CITY/TRACT BOUNDARIES
  (EXHIBITS 1-6)

- DEVELOPMENT PLAN
- PHASING
- CIRCULATION
- OPEN SPACE/RECREATION
  (EXHIBITS C-F)


1A
REGIONAL LAND USE
SP 195
CZ 4424
22
23
24
CITY
LIMITS
VALLEY
MORENO
Park
BOX SPRINGS MOUNTAIN
REGIONAL PARK
SUNNYMEAD RANCH
SP 168
N
1" = 1600'
App. GRIFFIN DEVELOPMENT
Use SPECIFIC PLAN OF LAND USE
Dist. EDGEMONT/SUNNYMEAD
Sup. Dist. 5
Sec. 23 T. 2 S., R. 3 W
Assessor's Bk. 259 261 Pg. 21,24 4
Circulation PIGEON PASS 88' SECONDARY
Element NORTH COUNTY BLVD. 100' MAJOR
Rd. Bk. Pg. 24-A 24-B
Date MAY 29, 1985
Drawn By F J. W
RIVERSIDE COUNTY PLANNING DEPARTMENT
LOCATIONAL MAP
SITE
MANZANITA AVE.
PIGEON PASS RD.
COUNTY
RIVERSIDE COUNTY
NO SCALE

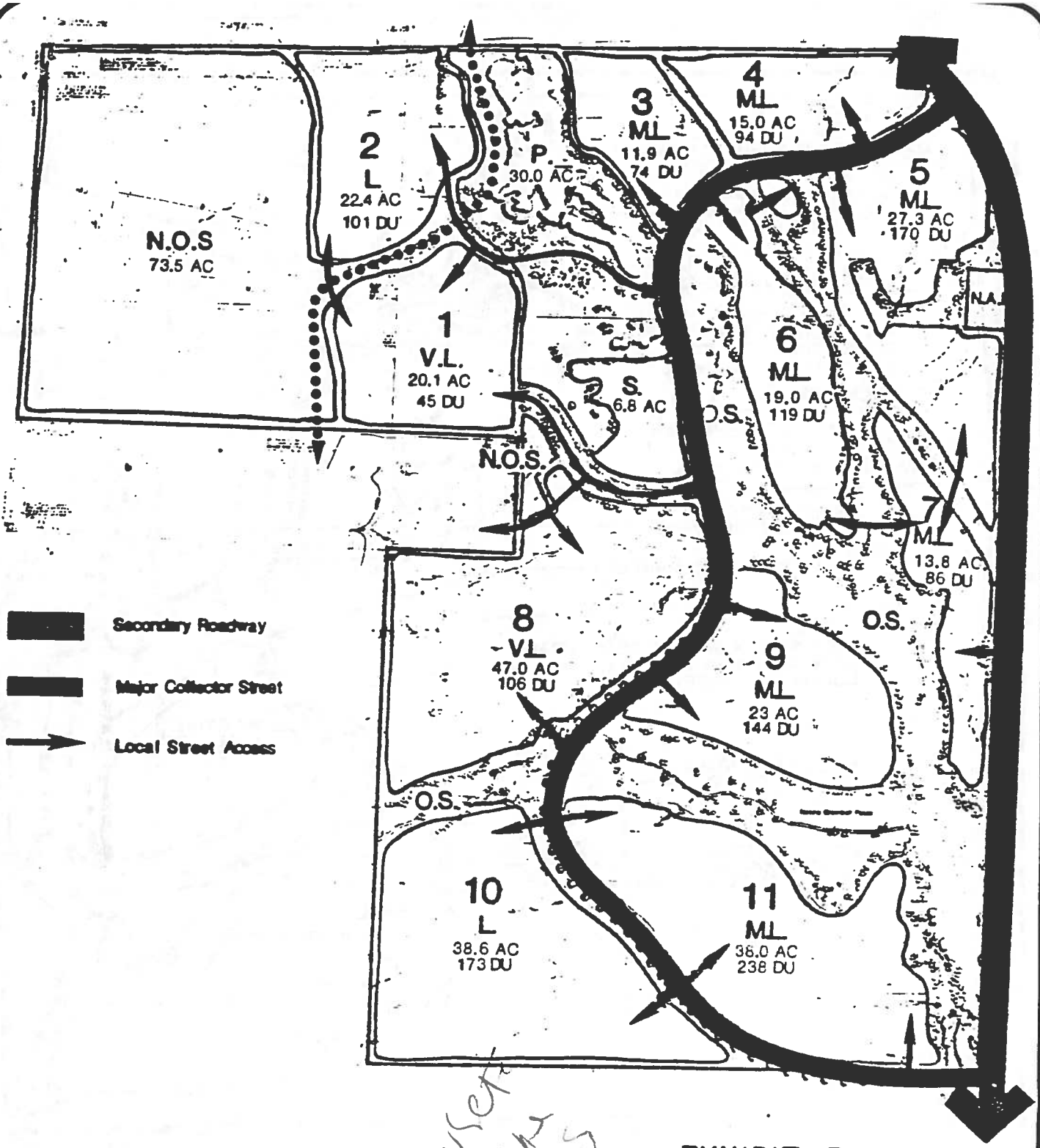


EXHIBIT E

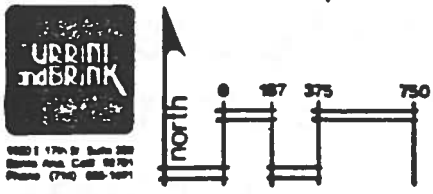
Figure IV-7

Master Circulation Plan

HIDDEN SPRINGS

By Griffin Homes

22 Falcon Ridge Drive Pomona, Ca. 91766



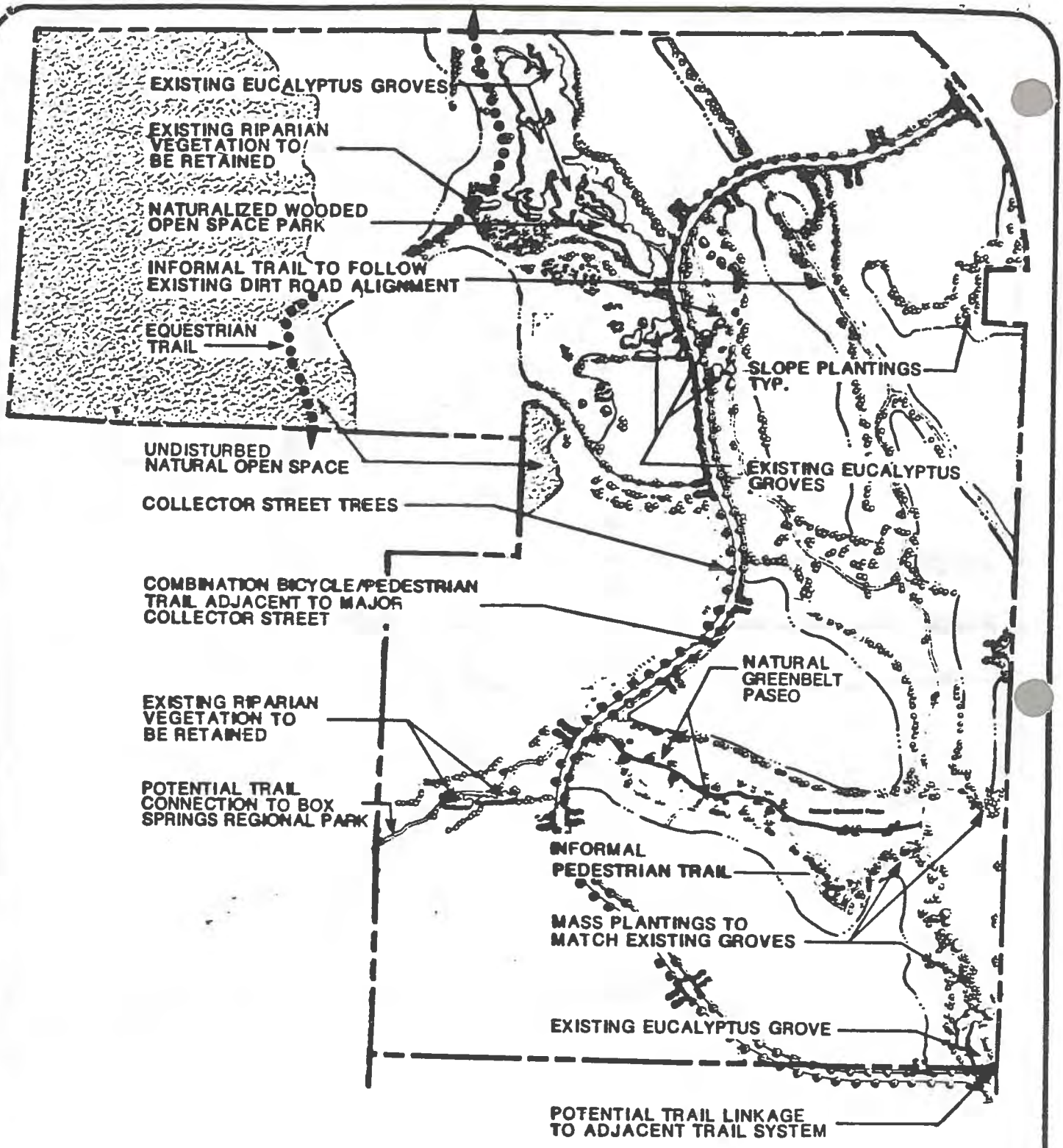


EXHIBIT F

Figure IV-9

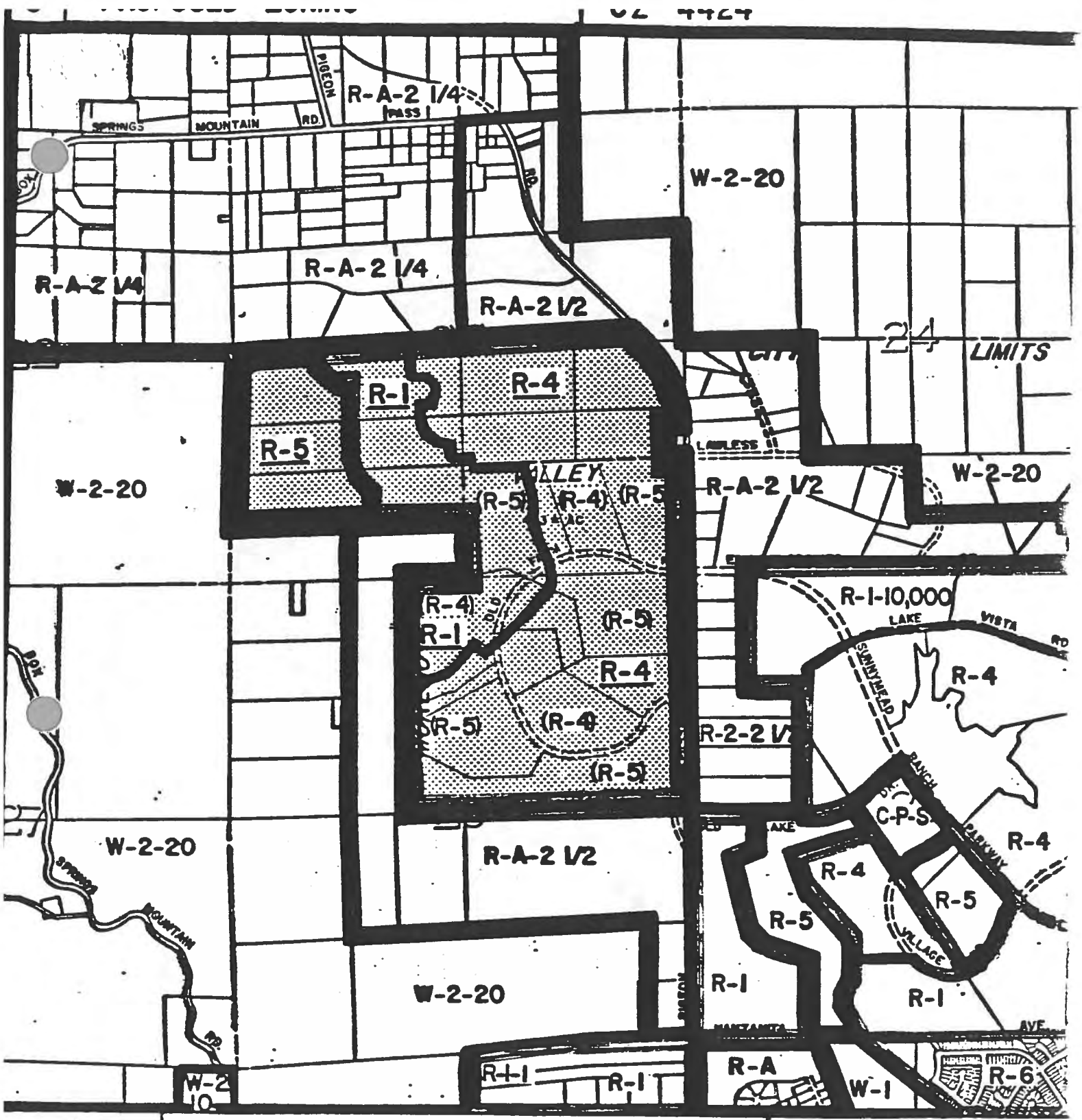
Open Space And Recreation Plan

north 0 187 375 750

HIDDEN SPRINGS

By Griffin Homes

22 Falcon Ridge Drive Pomona, Ca. 91766

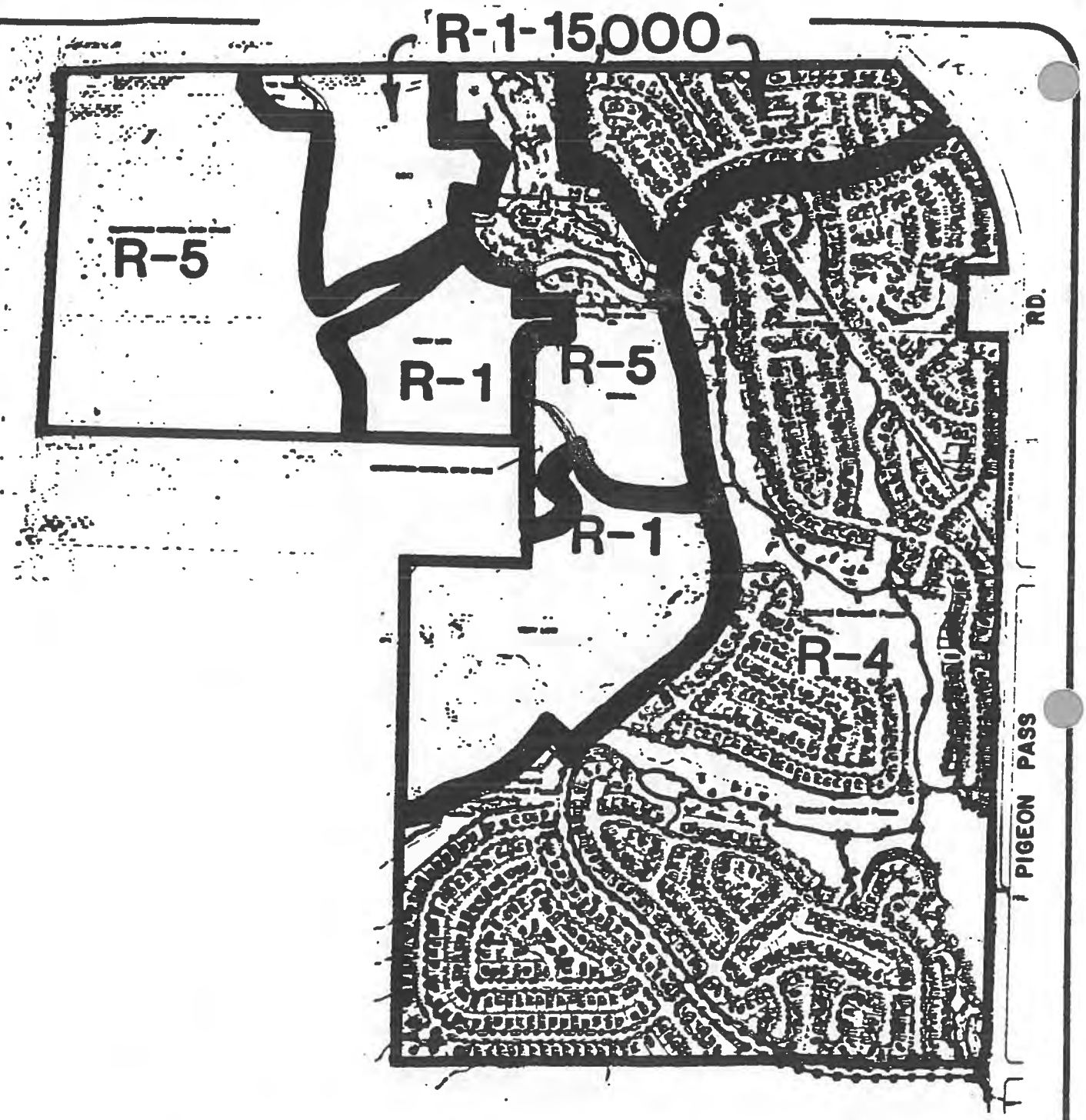


App. GRIFFIN DEVELOPMENT	
Use R-4,R-5,R-A-2 1/4,R-A-2 1/2,W-2-20, TO R-1, R-4, & R-5	
Dist. EDGEMONT / SUNNYMEAD	Sup. Dist. 5
Sec. 23 T. 2 S., R. 3 W Assessor's Bk. 259, 261 Pg. 21,24, 4	
Circulation PIGEON PASS 88' SECONDARY Element NORTH COUNTY BLVD. 100' MAJOR	
Rd. Bk. Pg. 24-A, 24-B Date MAY 29, 1985 Drawn By F J. W	
RIVERSIDE COUNTY PLANNING DEPARTMENT	

1" = 1600'

LOCATIONAL MAP

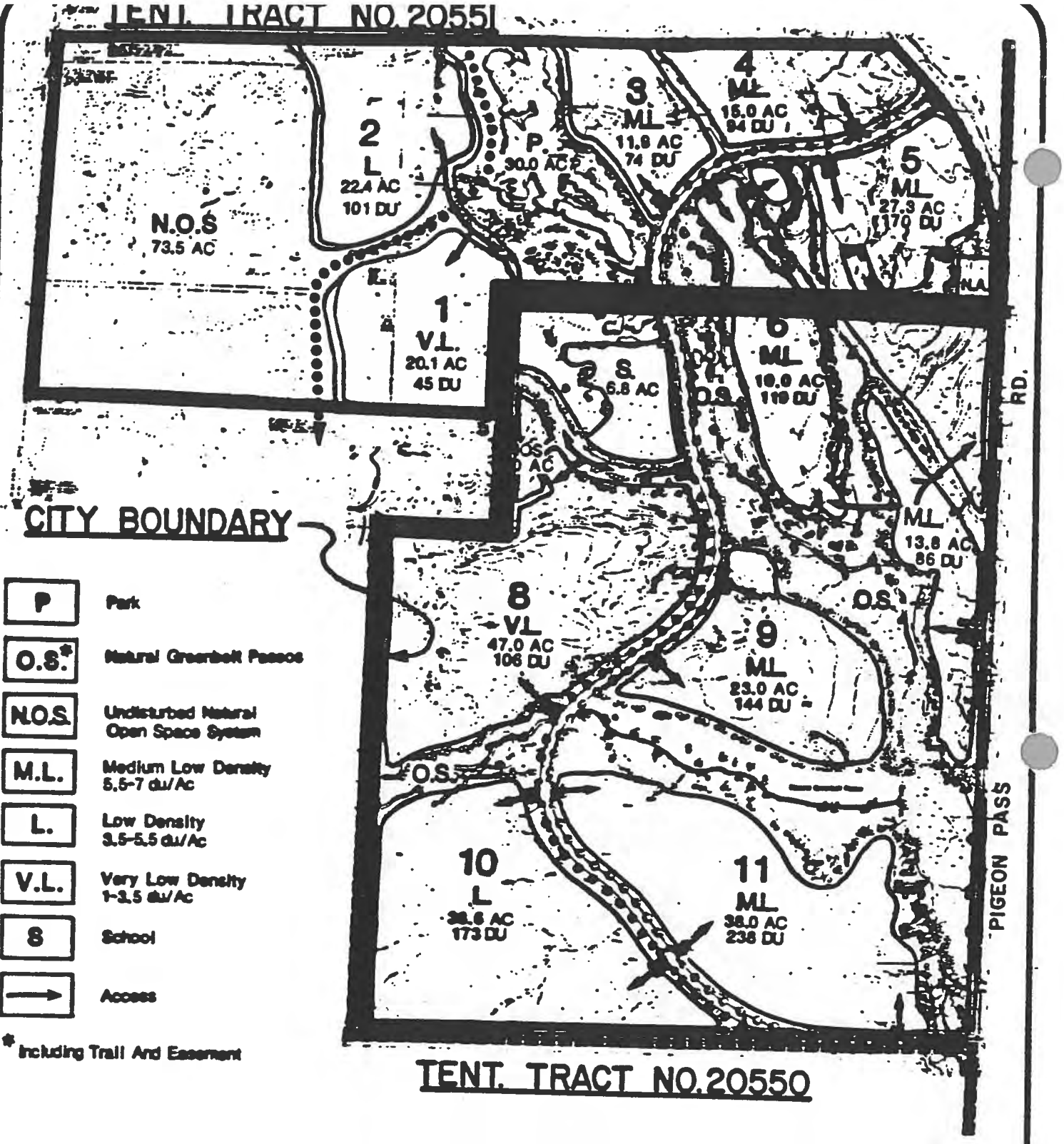
EXHIBIT 4 STAFF PROPOSAL CZ 4424



SP 195 CZ 4424
HIDDEN SPRINGS

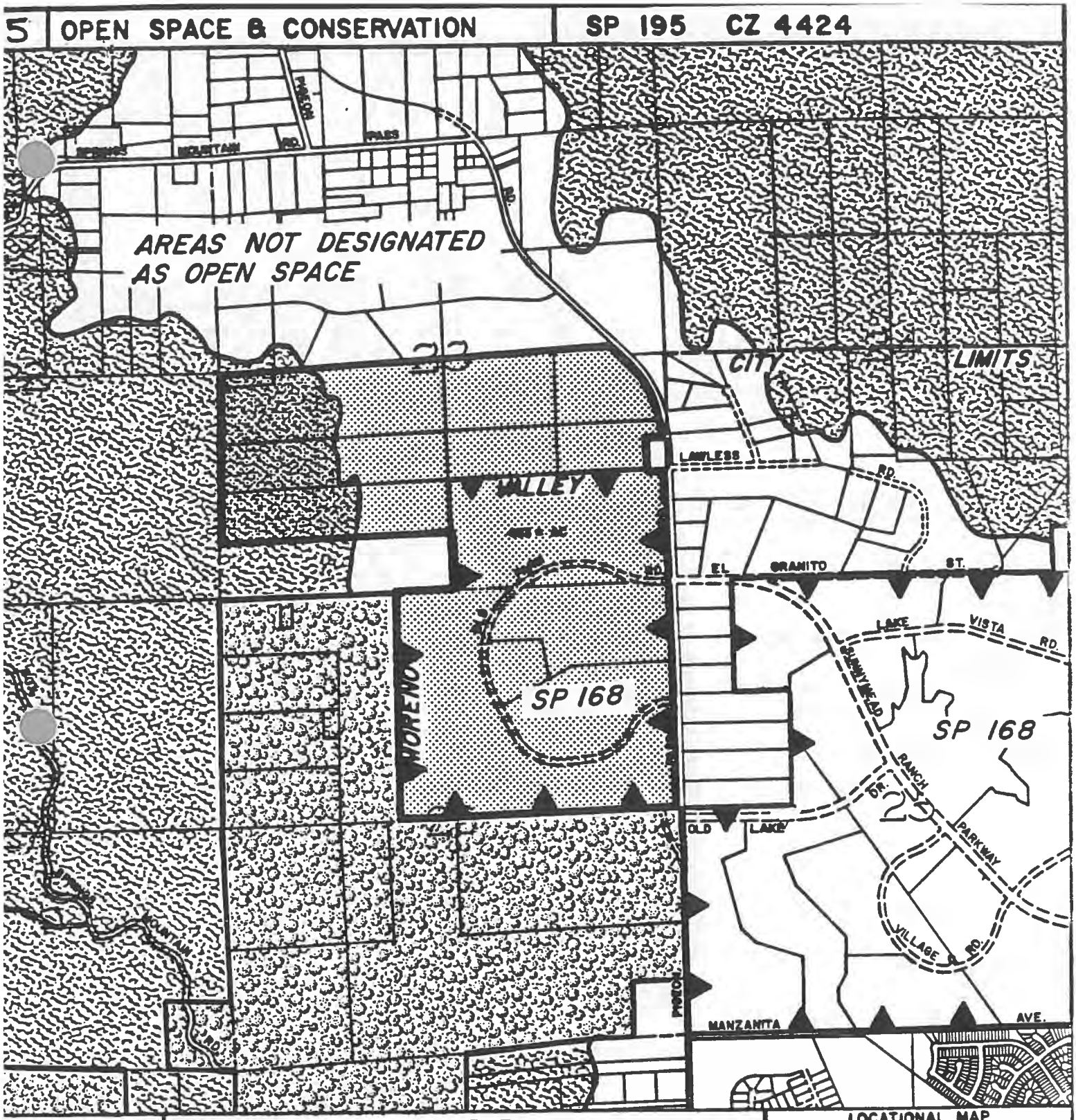
URRINI adBRINK

north 0 187 375 750



TENTATIVE TRACTS RELATIONSHIP TO DEVELOPMENT PLAN AND CITY BOUNDARIES.

EXHIBIT No 6



App. GRIFFIN DEVELOPMENT

Use R-4,R-5,R-A-2 1/4,R-A-2 1/2,W-2-20,TO R-1, R-4, & R-5

Dist. EDGEMONT/SUNNYMEAD Sup. Dist. 5

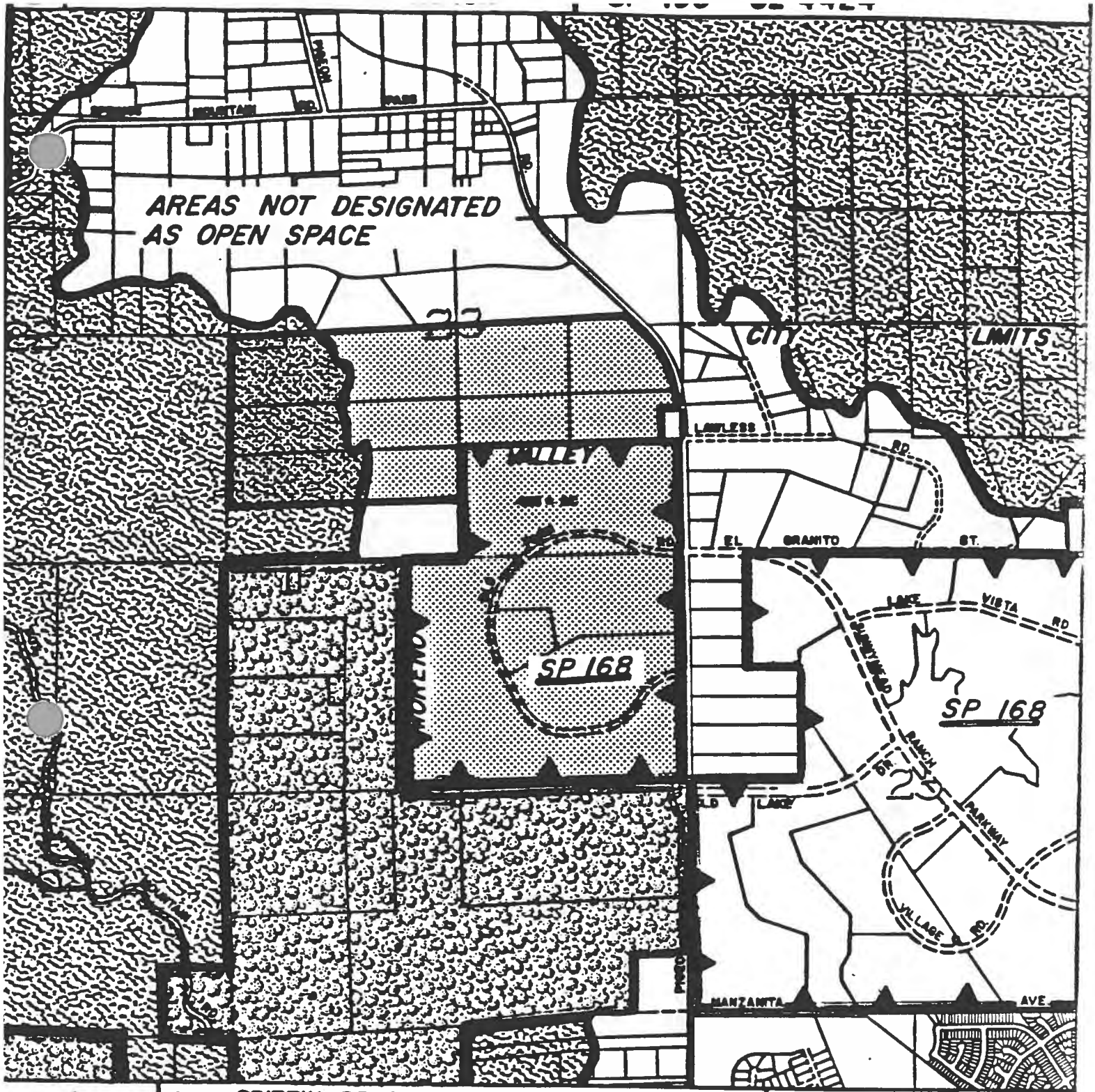
Sec. 23 T. 2 S., R. 3 W Assessor's Bk. 259, 261 Pg. 21, 24, 4

Circulation PIGEON PASS 88' SECONDARY
Element NORTH COUNTY BLVD. 100' MAJOR

Rd. Bk. Pg. 24-A, 24-B Date MAY 29, 1985 Drawn By F J. W

RIVERSIDE COUNTY PLANNING DEPARTMENT

D-78-1-JLW



App. GRIFFIN DEVELOPMENT

Use R-4,R-5,R-A-2 1/4,R-A-2 1/2,W-2-20,TO R-1, R-4, & R-5

Dist. EDGEMONT/SUNNYMEAD Sup. Dist. 5

Sec. 23 T. 2 S., R. 3 W Assessor's Bk. 259, 261 Pg. 21, 24, 4

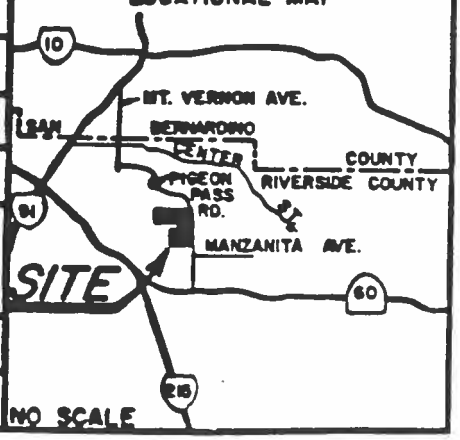
Circulation PIGEON PASS 88' SECONDARY
Element NORTH COUNTY BLVD. 100' MAJOR

Rd. Bk. Pg. 24-A, 24-B Date MAY 29, 1985 Drawn By F J. W

RIVERSIDE COUNTY PLANNING DEPARTMENT

1" = 1600'

LOCATIONAL MAP



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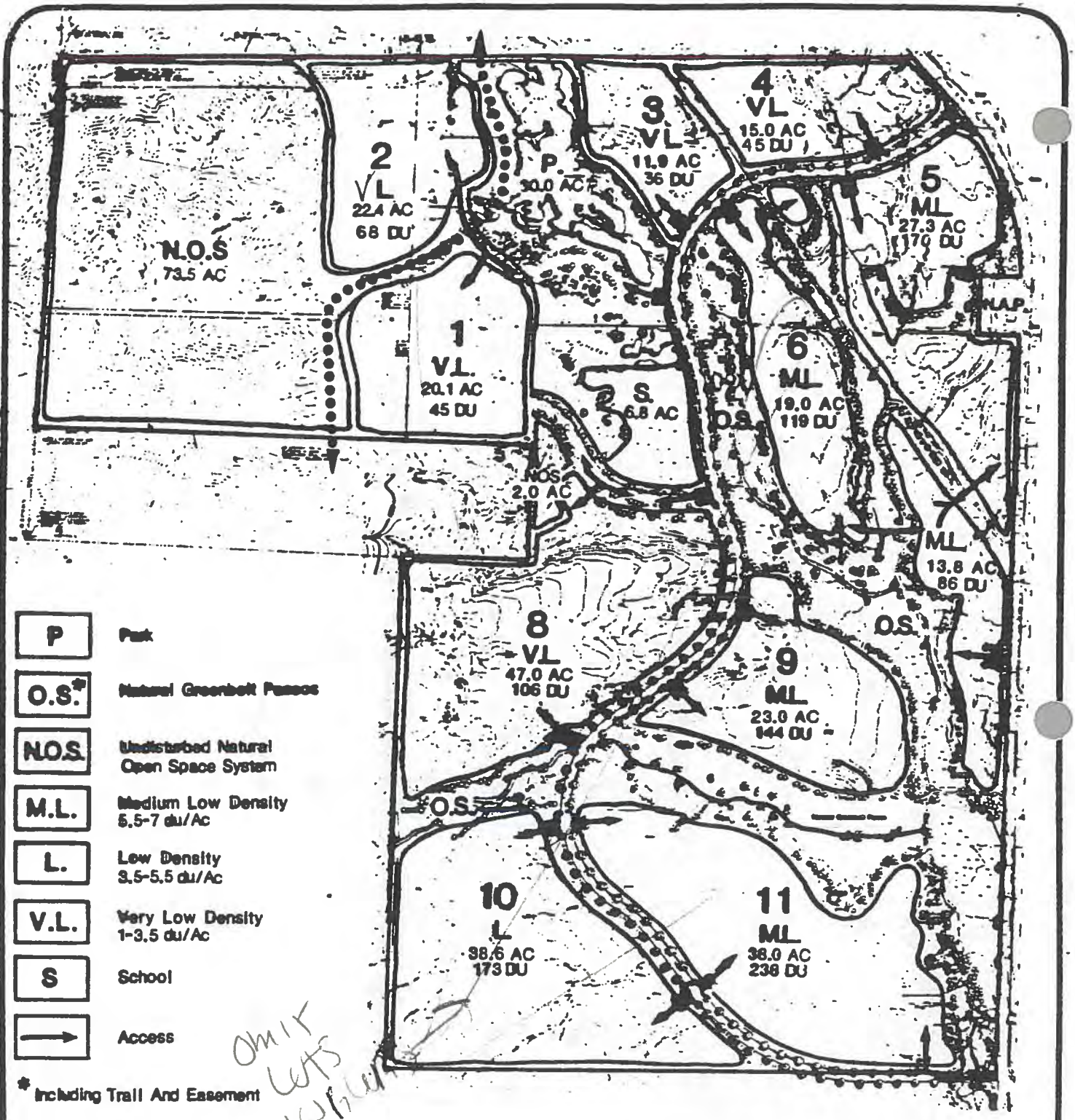


Omit Lots

EXHIBIT C

~~STAFF RECOMMENDATION~~

Specific Land Use Plan

HIDDEN SPRINGS

10-24-05

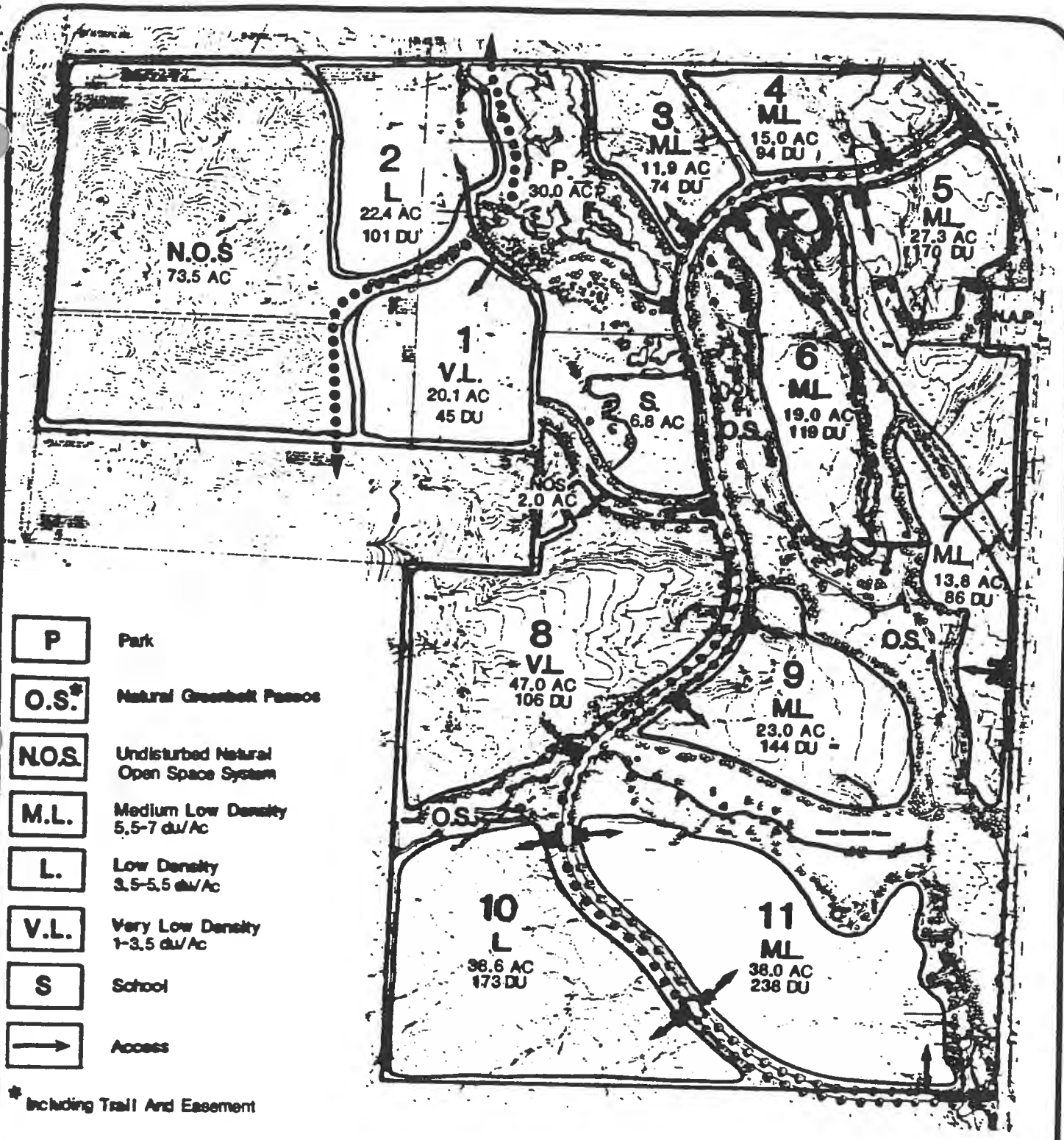


EXHIBIT C-A
APPLICANTS PROPOSAL

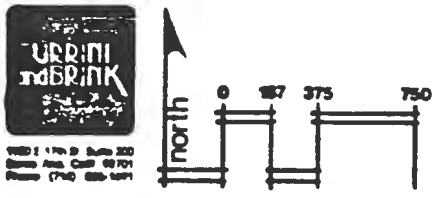
Figure IV-6

Specific Land Use Plan

HIDDEN SPRINGS

By Griffin Homes

22 Falcon Ridge Drive Pomona, Ca. 91766



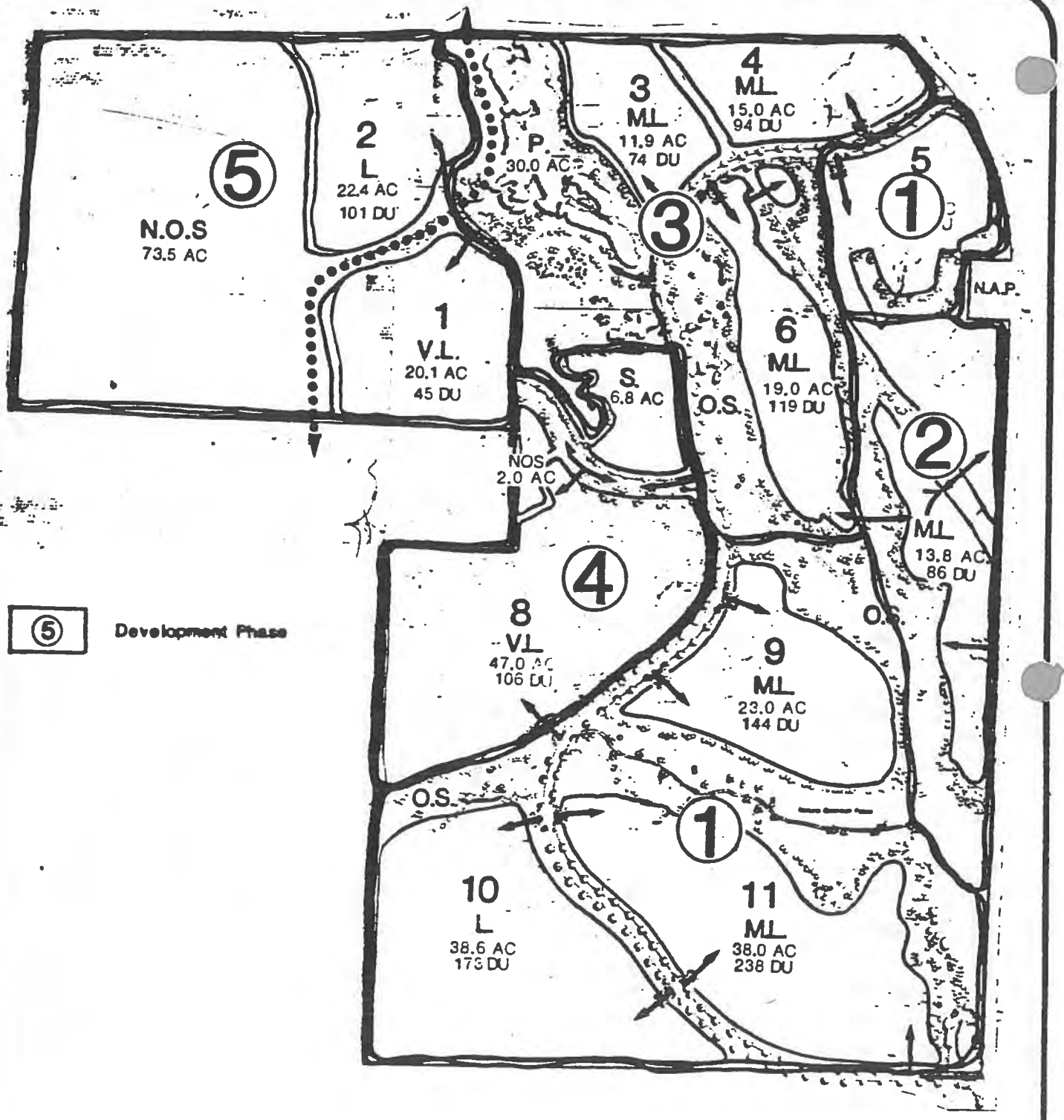


EXHIBIT D

Figure IV-16

Phasing Plan

HIDDEN SPRINGS

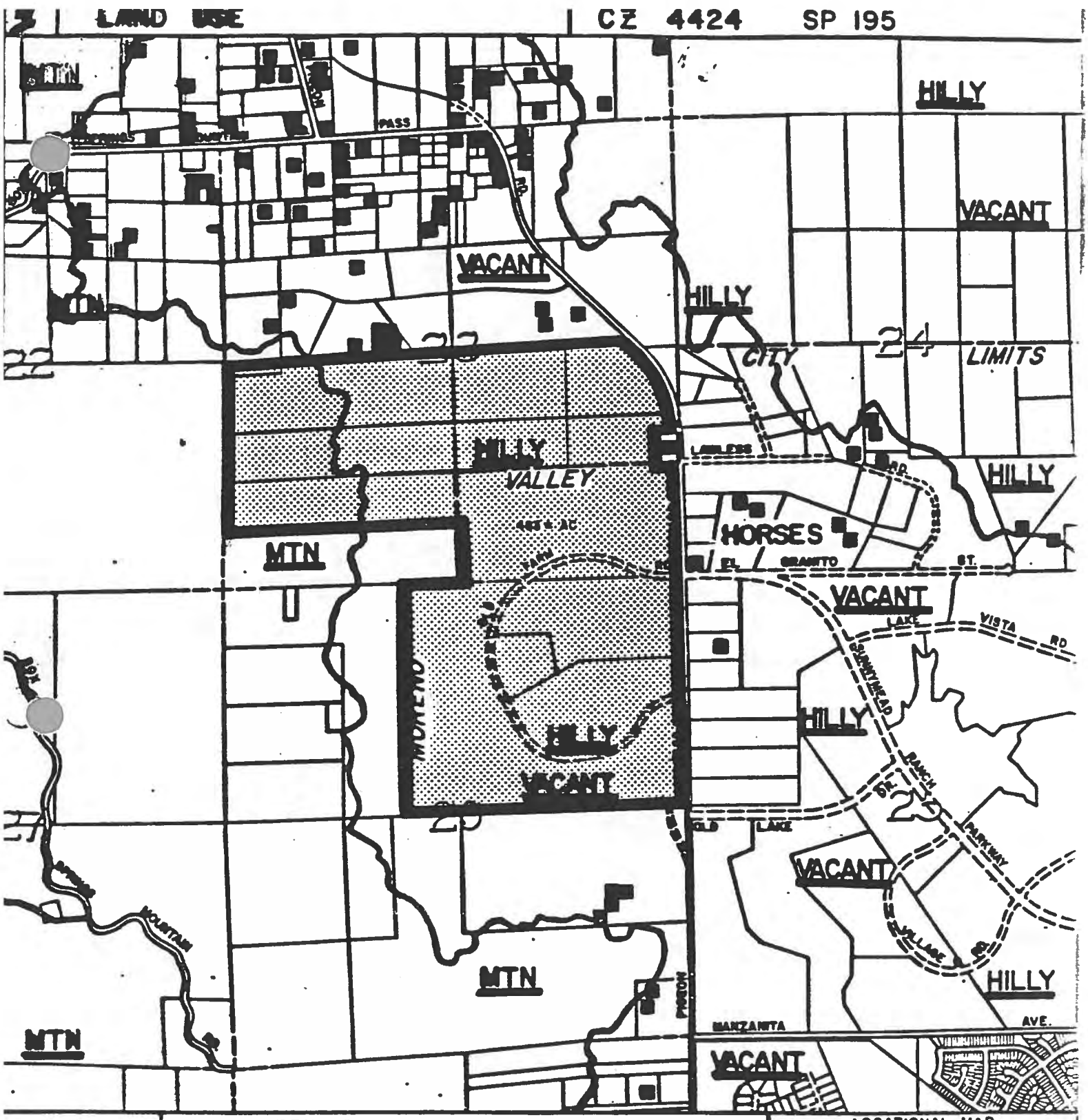
By Griffin Homes

22 Falcon Ridge Drive Pomona, Ca. 91766

URRIN and BRINK

north

0 187 375 750

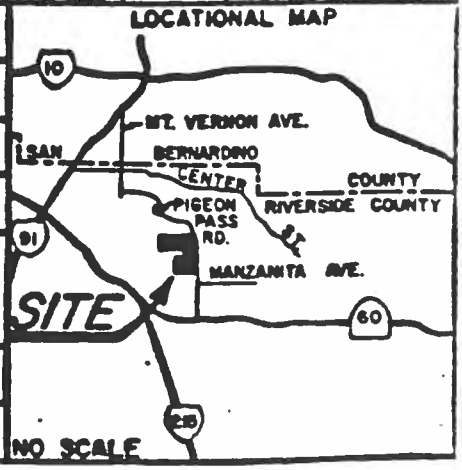


App.	GRIFFIN DEVELOPMENT
Use	R-4,R-5,R-A-2 1/4,R-A-2 1/2,M-2-20, TO R-1,R-4,R-5.
Dist.	EDGEMONT/SUNNYMEAD Sup. Dist. 5
Sec.	23 T. 2 S., R. 3 W Assessor's Bk. 259/261 Pg. 21,24/4
Circulation	PIGEON PASS 88' SECONDARY
Element	NORTH COUNTY BLVD. 100' MAJOR
Rd. Bk. Pg.	24-A/24-B Date MAY 29, 1985 Drawn By F J. W
	RIVERSIDE COUNTY PLANNING DEPARTMENT

N

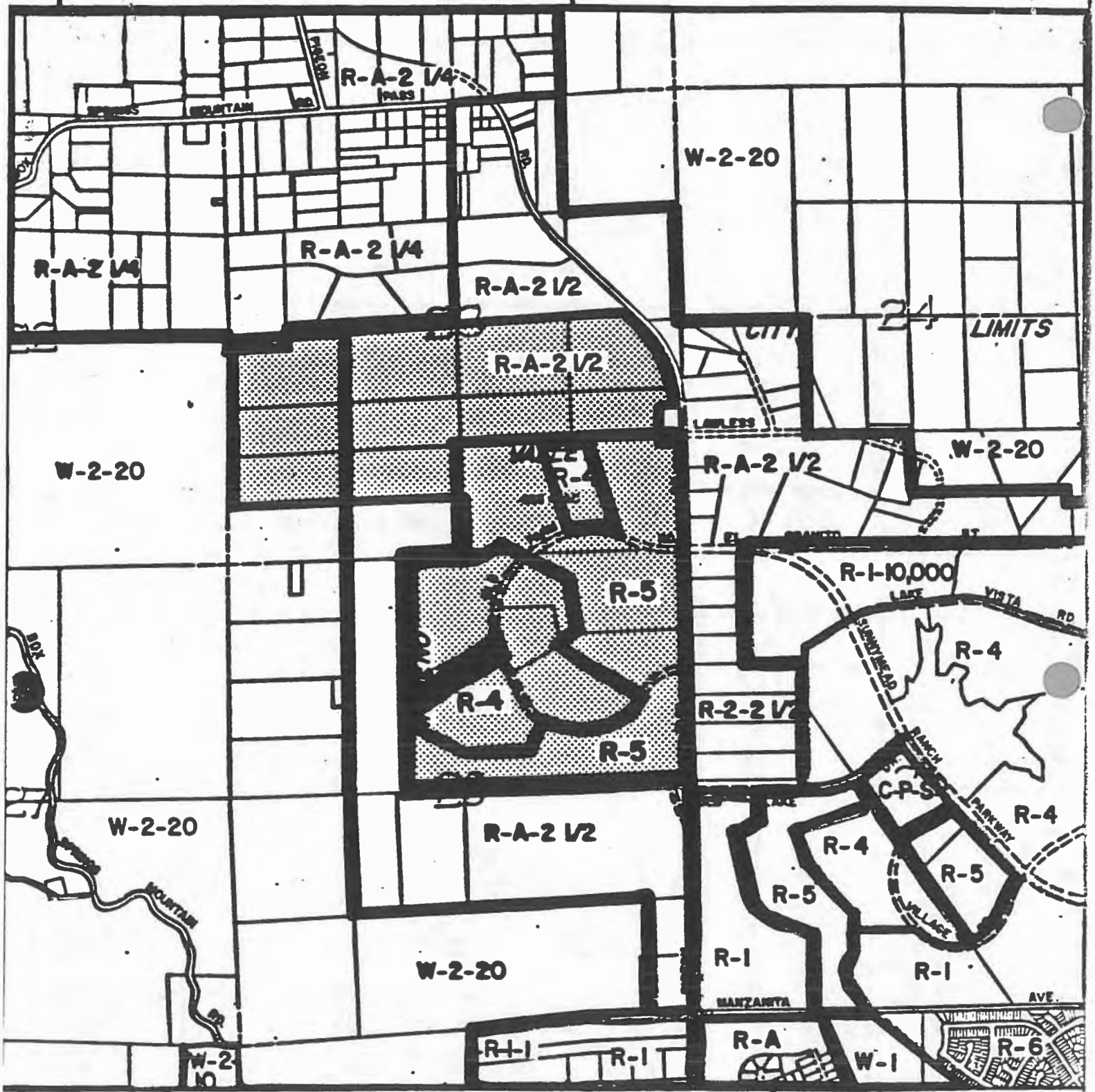
1" = 1600'

LOCATIONAL MAP



2 EXISTING ZONING

SP 195 CZ 4424



App. GRIFFIN DEVELOPMENT

Use SPECIFIC PLAN OF LAND USE

Dist. EDGEMONT/SUNNYMEAD Sup. Dist. 5

Sec. 23 T. 2 S., R. 3 W Assessor's Bk. 259 261 Pg. 21,24 4

Circulation PIGEON PASS 88' SECONDARY
Element NORTH COUNTY BLVD. 100' MAJOR

Rd. Bk. Pg. 24-A 24-B Date MAY 29, 1985 Drawn By F. J. W

RIVERSIDE COUNTY PLANNING DEPARTMENT

1" = 1600'

LOCATIONAL MAP

NO SCALE